



SEQUENCE LISTING

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APR 16 2002

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<120> NEMATODE-EXTRACTED SERINE PROTEASE INHIBITORS AND ANTICOAGULANT
PROTEIN

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<140> 09/498,556

<141> 2000-04/02

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<151> 1997-04-17

<150> PCT/US95/13231

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<151> 1994-10-18

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<170> PatentIn version 3.1

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TGTGTTAAGG	AAGAAGAATG	CGACCAACAT	GAGATTATAC	ATGTCTGA		228

GAATTC	CGCT	ACTACT	CAAC	A	ATG	AAG	ATG	CTT	TAC	GCT	ATC	GCT	ATA	ATG		51
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					1				5					10		
TTT	CTC	CTG	GTA	TCA	TTA	TGC	AGC	GCA	AGA	ACA	GTG	AGO	AAG	GCA	TAC	99
Phe	Leu	Leu	Val	Ser	Leu	Cys	Ser	Ala	Arg	Thr	Val	Arg	Lys	Ala	Tyr	
					15				20					25		
CCG	GAG	TGT	GGT	GAG	RAT	GAA	TGG	CTC	GAC	GAC	TGT	GGA	ACT	CAG	AAG	147
Pro	Glu	Cys	Gly	Glu	Asn	Glu	Trp	Leu	Asp	Asp	Cys	Gly	Thr	Gln	Lys	
					30				35					40		
CCA	TGC	GAG	CCC	AAG	TGC	RAT	GAG	GRA	CCC	CCT	GAG	GAG	GAA	OAT	CCG	195
Pro	Cys	Glu	Ala	Lys	Cys	Asn	Glu	Glu	Pro	Pro	Glu	Glu	Glu	Asp	Pro	
					45				50					55		
ATA	TGC	CGC	TCA	CGT	GOT	TGT	TTA	TTA	CCT	CCT	GCT	TGC	GTA	TGC	AAA	243
Ile	Cys	Arg	Ser	Arg	Gly	Cys	Leu	Leu	Pro	Pro	Ala	Cys	Val	Cys	Lys	
					60				65					70		
GAC	OGA	TTC	TAC	AGA	GAC	ACG	OTO	ATC	GGC	GAC	TOT	GTT	AGO	GAA	GAA	291
Asp	Gly	Phe	Tyr	Arg	Asp	Tsr	Val	Ile	Gly	Asp	Cys	Val	Arg	Glu	Glu	
					75									80		
					80				85					90		
GAA	TOC	GAC	CAR	CAT	GAG	ATT	ATA	CAT	GTC	T	GAACGAGAAA	GCAACAATAA	CC			344
Glu	Cys	Asp	Gln	His	Glu	Ile	Ile	His	Val							
					95				100							

AAAGGTTCCA ACTCTCGCTC TGCAAAATCG CTAGTTGOAT GTCTCTTTTG CGTCCGAATA 404
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 30 35 40
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 Phe Leu Leu Val Ser Leu Cys Ser Thr Arg Thr Val Arg Lys Ala Tyr
 15 20 25
 CCG GAG TGT GGT GAG AAT GAA TGG CTC GAC GTC TGT GGA ACT AAG AAG 147
 Pro Glu Cys Gly Glu Asn Glu Trp Leu Asp Val Cys Gly Thr Lys Lys
 30 35 40
 CCA TGC GAG GGC AAG TGC AGT GAG GAA GAG GAG GAA GAT CCG ATA TGC 195
 Pro Cys Glu Ala Lys Cys Ser Glu Glu Glu Glu Asp Pro Ile Cys
 45 50 55
 CGA TCA TTT TCT TGT CCG GGT CCC GCT GCT TGC GTA TGC GAA GAC GGA 243

Arg Ser Phe Ser Cys Pro Gly Pro Ala Ala Cys Val Cys Glu Asp Gly
60 65 70
TTC TAC AGA GAC ACG GTG ATC GGC GAC TGT GTT AAG GAA GAA GAA TGC 291
Phe Tyr Arg Asp Thr Val Ile Gly Asp Cys Val Lys Glu Glu Glu Cys
75 80 85 90
GAC CAA CAT GAG ATT ATT CAT GTC TGAACGAGAG AGCAGTRATA ACCAAAGGTT C 346
Asp Gln His Glu Ile Ile His Val
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Pro Ile Cys Arg Ser Phe Ser Cys Pro Gly Pro Ala Ala Cys Val Cys
35 40 45
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20 25 30
Pro Pro Glu Glu Glu Asp Pro Ile Cys Arg Ser Arg Gly Cys Leu Leu
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Gly Asp Cys Val Arg Glu Glu Glu Cys Asp Gln His Glu Ile Ile His
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Asp	Val	Cys	Gly	Thr	Lys	Lys	Pro	Cys	Glu	Ala	Lys	Cys	Ser	Glu	Glu
			20					25					30		
Glu	Glu	Glu	Asp	Pro	Ile	Cys	Arg	Ser	Phe	Ser	Cys	Pro	Gly	Pro	Ala
		35					40					45			
Ala	Cys	Val	Cys	Glu	Asp	Gly	Phe	Tyr	Arg	Asp	Thr	Val	Ile	Gly	Asp
	50					55				60					
Cys	Val	Lys	Glu	Glu	Glu	Cys	Asp	Gln	His	Glu	Ile	Ile	His	Val	
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				1				5					10		
TTA	CTA	CTG	GTA	TCA	CAA	TGC	AGT	GGG	AAA	CCG	AAC	AAT	GTG	ATG	ACT
Leu	Leu	Leu	Val	Ser	Gln	Cys	Ser	Gly	Lys	Pro	Asn	Asn	Val	Met	Thr
				15				20					25		
AAC	GCT	TGT	GGT	CTT	AAT	GAA	TAT	TTC	GCT	GAG	TGT	GGC	AAT	ATG	AAG
Asn	Ala	Cys	Gly	Leu	Asn	Glu	Tyr	Phe	Ala	Glu	Cys	Gly	Asn	Met	Lys
			30					35				40			
GAA	TGC	GAG	CAC	AGA	TGC	AAT	GAG	GAG	GAA	AAT	GAG	GAA	AGG	GAC	GAG
Glu	Cys	Glu	His	Arg	Cys	Asn	Glu	Glu	Glu	Asn	Glu	Glu	Arg	Asp	Glu
		45				50				55					
GAA	AGA	ATA	ACG	GCA	TGC	CTC	ATC	CGT	GTG	TGT	TTC	CGT	CCT	GGT	GCT
Glu	Arg	Ile	Thr	Ala	Cys	Leu	Ile	Arg	Val	Cys	Phe	Arg	Pro	Gly	Ala
	60					65				70					
TGC	GTA	TGC	AAA	GAC	GGA	TTC	TAT	AGA	AAC	AGA	ACA	GGC	AGC	TGT	GTG
Cys	Val	Cys	Lys	Asp	Gly	Phe	Tyr	Arg	Asn	Arg	Thr	Gly	Ser	Cys	Val
	75				80			85					90		
GAA	GAA	GAT	GAC	TGC	GAG	TAC	GAG	AAT	ATG	GAG	TTC	ATT	ACT	TTT	GCA
Gln	Glu	Asp	Asp	Cys	Glu	Tyr	Glu	Asn	Met	Glu	Phe	Ile	Thr	Phe	Ala
				95				100				105			
CCA	GAA	GTA	CCG	ATA	TGT	GGT	TCC	AAC	GAA	AGG	TAC	TCC	GAC	TGC	GGC
Pro	Gln	Val	Pro	Ile	Cys	Gly	Ser	Asn	Glu	Arg	Tyr	Ser	Asp	Cys	Gly
			110					115				120			

AAT GAC AAA CAA TGC GAG CGC AAA TGC AAC GAG GAC GAT TAT GAG AAG	434
Asn Asp Lys Gln Cys Glu Arg Lys Cys Asn Glu Asp Asp Tyr Glu Lys	
125 130 135	
GGA GAT GAG GCA TGC CGC TCA CAT GTT TGT GAA CGT CCT GGT GCC TGT	482
Gly Asp Glu Ala Cys Arg Ser His Val Cys Glu Arg Pro Gly Ala Cys	
140 145 150	
GTA TGC GAA GAC GGG TTC TAC AGA AAC AAA AAA GGT AGC TGT GTG GAA	530
Val Cys Glu Asp Gly Phe Tyr Arg Asn Lys Lys Gly Ser Cys Val Glu	
155 160 165 170	
AGC GAT GAC TGC GAA TAC GAT AAT ATG GAT TTC ATC ACT TTT GCA CCA	578
Ser Asp Asp Cys Glu Tyr Asp Asn Met Asp Phe Ile Thr Phe Ala Pro	
175 180 185	
GAA ACC TCA CGA TAACCAAAGA TGCTACCTCT CGTACGCAAC TCCGCTGATT GAGGTT	636
Glu Thr Ser Arg	
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TCG CAR TGT ART GGA AAA GGA TTC CCG AAA TGT GAC GTC ART GAA AGA	99
Ser Gln Cys Asn Gly Lys Ala Phe Pro Lys Cys Asp Val Asn Gln Arg	
15 20 25 30	
TTC GAO GTG TGT GGC ART CTG AAG GAG TGC GAG CTC AAG TGC GAT GAG	147
Phe Gln Val Cys Gly Asn Leu Lys Glu Cys Glu Leu Lys Cys Asp Glu	
35 40 45	
GAC CCT AAG ATA TGC TCT CGT GCA TGT ATT CGT CCC CCT GCT TGC GTA	195
Asp Pro Lys Ile Cys Ser Arg Ala Cys Ile Arg Pro Pro Ala Cys Val	
50 55 60	
TGC GAT GAC GGA TTC TAC AGA GAC AAA TAT GGC TTC TGT GTT GAA GAA	243
Cys Asp Asp Gly Phe Tyr Arg Asp Lys Tyr Gly Phe Cys Val Gln Gln	
65 70 75	
GAC GAA TGT AAC GAT ATG GAG ATT ATT ACT TTT CCA CCA GAA ACC AAA TG	293
Asp Glu Cys Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Gln Thr Lys	
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	1				5					10					
AAG CAT TGC GAA CTC AAG TGC GAT AGG GAG CTA ACT GAG AAA GAA GAG															99
Lys His Cys Glu Leu Lys Cys Asp Arg Glu Leu Thr Glu Lys Glu Glu															
15				20				25					30		
CAG GCA TGT CTC TCA CGT GTT TGT GAG AAG TCC GCT TGC GTA TGC AAT															147
Gln Ala Cys Leu Ser Arg Val Cys Glu Lys Ser Ala Cys Val Cys Asn															
			35				40					45			
GAC GGA TTA TAC AGA GAC AAG TTT GGC AAC TGT GTT GAA AAA GAC GAA															195
Asp Gly Leu Tyr Arg Asp Lys Phe Gly Asn Cys Val Glu Lys Asp Glu															
	50				55				60						
TGC AAC GAT ATG GAG ATT ATT ACT TTT GCA CCA GAA ACC AAA TAATGGCCTA															247
Cys Asn Asp Met Glu Ile Ile Thr Phe Ala Pro Glu Thr Lys															
	65				70				75						

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GACATAATAA TGAGTAAACC TTCTGATTT 396

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Leu Leu Leu Ile Ser Leu Cys Ser Gly Lys Ala Ala Lys Lys Cys Gly		
	15 20 25	
CTC AAT GAA AGG CTG GAC TGT GGC AAT CTG AAG CAA TGC GAG CCC AAG		146
Leu Asn Glu Arg Leu Asp Cys Gly Asn Leu Lys Gln Cys Glu Pro Lys		
	30 35 40	
TGC AGC GAC TTG GAA AGT GAG GAG TAT GAG GAG GAA GAT GAG TCG AAA		194
Cys Ser Asp Leu Glu Ser Glu Glu Tyr Glu Glu Glu Asp Glu Ser Lys		
	45 50 55	

TGT CGA TCA CGT GAA TGT TCT CGT CGT GTT TGT GTA TGC GAT GAA GGA	242
Cys Arg Ser Arg Glu Cys Ser Arg Arg Val Syc Val Syc Asp Glu Gly	
60 65 70	
TTC TAC AGA AAC AAG AAG GGC AAG TGT GTT CGA AAA GAT GTT TGC GAG	290
Phe Tyr Arg Asn Lys Lys Gly Lys Cys Val Ala Lys Asp Val Cys Glu	
75 80 85 90	
GAC GAC AAT ATG GAG ATT ATC ACT TTT CCA CCA GAA GAC GAA TGT GGT	338
Asp Asp Asn Met Glu Ile Ile Thr Phe Pro Pro Glu Asp Glu Cys Gly	
95 100 105	
CCC GAT GAA TGG TTC GAC TAC TGT GGA AAT TAT AAG AAG TGC GAA CGC	386
Pro Asp Glu Trp Phe Asp Tyr Cys Gly Asn Tyr Lys Lys Cys Glu Arg	
110 115 120	
AAG TGC AGT GAG GAG ACA AGT GAG AAA AAT GAG GAG GCA TGC CTC TCT	434
Lys Cys Ser Glu Glu Thr Ser Glu Lys Asn Glu Glu Ala Cys Leu Ser	
125 130 135	
CGT GCT TGT ACT GGT CGT GCT TGC GTA TGC AAA GAC GGA TTG TAC AGA	482
Arg Ala Cys Thr Gly Arg Ala Cys Val Cys Lys Asp Gly Leu Tyr Arg	
140 145 150	
GAC GAC TTT GGC AAC TGT GTT CCA CAT GAC GAA TGC AAC GAT ATG GAG	
Asp Asp Phe Gly Asn Cys Val Pro His Asp Glu Cys Asn Asp Met Glu	
155 160 165 170	
ATC ATC ACT TTT CCA CCG GAA ACC AAA CAT TGACCAGAGG CTCCAACCTCT CGCT	584
Ile Ile Thr Phe Pro Pro Glu Thr Lys His	
175 180	
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Lys Leu Val Leu Thr Ala Ile Val Thr Val Val Leu Ser Ala Lys	
5 10 15	
ACC TGT GGA CCA AAC GAG GAG TAC ACT GAA TGC GGG ACG CCA TGC GAG	153
Thr Cys Gly Pro Asn Glu Glu Tyr Thr Glu Cys Gly Thr Pro Cys Glu	
20 25 30 35	
CCG AAG TGC AAT GAA CCG ATG CCA GAC ATC TGT ACT CTG AAC TGC ATC	201
Pro Lys Cys Asn Glu Pro Met Pro Asp Ile Cys Thr Leu Asn Cys Ile	
40 45 50	
GTG AAC GTG TGT CAG TGC AAA CCC GGC TTC AAG CGC GGA CCG AAA GGA	249
Val Asn Val Cys Gln Cys Lys Pro Gly Phe Lys Arg Gly Pro Lys Gly	

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Gly Ile Pro Leu Leu Leu Arg Phe Leu Gly Phe Leu Leu Val Thr Leu	
10 15 20	
TTC GGC TAT CTG CTT ACT TTC CTT AAA AAG GGC TTC GGT AAG ATA GCT	150
Phe Gly Tyr Leu Leu Thr Phe Leu Lys Lys Gly Phe Gly Lys Ile Ala	
25 30 35	
ATT GCT ATT TCA TTG TTT CTT GCT CTT ATT ATT GGG CTT AAC TCA ATT	198
Ile Ala Ile Ser Leu Phe Leu Ala Leu Ile Ile Gly Leu Asn Ser Ile	
40 45 50	
CTT GTG GGT TAT CTC TCT GAT ATT AGC GCA CAA TTA CCC TCT GAT TTT	246
Leu Val Gly Tyr Leu Ser Asp Ile Ser Ala Gln Leu Pro Ser Asp Phe	
55 60 65	
GTT CAG GGC GTT CAG TTA ATT CTC CCG TCT AAT GCG CTT CCC TGT TTT	294
Val Gln Gly Val Gln Leu Ile Leu Pro Ser Asn Ala Leu Pro Cys Phe	
70 75 80 85	
TAT GTT ATT CTC TCT GTA AAG GCT GCT ATT TTC ATT TTT GAC GTT AAA	342
Tyr Val Ile Leu Ser Val Lys Ala Ala Ile Phe Ile Phe Asp Val Lys	
90 95 100	
CAA AAA ATC GTT TCT TAT TTG GAT TGG GAT AAA GGT GGA GGC TCA GGC	390
Gln Lys Ile Val Ser Tyr Leu Asp Trp Asp Lys Gly Gly Gly Ser Gly	
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Gly Ile Pro Leu Leu Leu Arg Phe Leu Gly Phe Leu Leu Val Thr Leu
                               10           15           20
TTC GGC TAT CTG CTT ACT TTC CTT AAA AAG GGC TTC GGT AAG ATA GCT      150
Phe Gly Tyr Leu Leu Thr Phe Leu Lys Lys Gly Phe Gly Lys Ile Ala
                               25           30           35
ATT GCT ATT TCA TTG TTT CTT GCT CTT ATT ATT GGG CTT AAC TCA ATT      198
Ile Ala Ile Ser Leu Phe Leu Ala Leu Ile Ile Gly Leu Asn Ser Ile
                               40           45           50
CTT GTG GGT TAT CTC TCT GAT ATT AGC GCR CAA TTA CCC TCT GAT TTT      246
Leu Val Gly Tyr Leu Ser Asp Ile Ser Ala Gln Leu Pro Ser Asp Phe
                               55           60           65
GTT CAG GGC GTT CAG TTA ATT CTC CCG TCT AAT GCG CTT CCC TGT TTT      294
Val Gln Gly Val Gln Leu Ile Leu Pro Ser Asn Ala Leu Pro Cys Phe
70           75           80           85
TAT GTT ATT CTC TCT GTA AAG GCT GCT ATT TTC ATT TTT GAC GTT AAA      342
Tyr Val Ile Leu Ser Val Lys Ala Ala Ile Phe Ile Phe Asp Val Lys
                               90           95           100
CAA AAA ATC GTT TCT TAT TTG GAT TGG GAT AAA GGT GGA GGC TCA GGC      390
Gln Lys Ile Val Ser Tyr Leu Asp Trp Asp Lys Gly Gly Gly Ser Gly
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Gly

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                               1           5
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Gly Ile Pro Leu Leu Leu Arg Phe Leu Gly Phe Leu Leu Val Thr Leu
                               10           15           20
TTC GGC TAT CTG CTT ACT TTC CTT AAA AAG GGC TTC GGT AAG ATA GCT      150
Phs Gly Tyr Leu Leu Thr Phe Leu Lys Lys Gly Phe Gly Lys Ile Ala
                               25           30           35

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 Ile Ala Ile Ser Leu Phe Leu Ala Leu Ile Ile Gly Leu Asn Ser Ile
 40 45 50
 CTT GTG GGT TAT CTC TCT GAT ATT AGC GCA CAA TTA CCC TCT GAT TTT 246
 Leu Val Gly Tyr Leu Ser Asp Ile Ser Ala Gln Leu Pro Ser Asp Phe
 55 60 65
 GTT CAG GGC GTT CAG TTA ATT CTC CCG TCT AAT GCG CTT CCC TGT TTT 294
 Val Gln Gly Val Gln Leu Ile Leu Pro Ser Asn Ala Leu Pro Cys Phe
 70 75 80 85
 TAT GTT ATT CTC TCT GTA AAG GCT GCT ATT TTC ATT TTT GAC GTT AAA 342
 Tyr Val Ile Leu Ser Val Lys Ala Ala Ile Phe Ile Phe Asp Val Lys
 90 95 100
 CAA AAA ATC GTT TCT TAT TTG GAT TGG GAT AAA GGT GGA GGC TCA GGC 390
 Gln Lys Ile Val Ser Tyr Leu Asp Trp Asp Lys Gly Gly Ser Gly
 105 110 115
 GGA TCGGCCAAGT CGGCCATCCC ATATCACGCG GCCGCGGATC C 434
 Gly

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 1 5 10
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 Glu Asn Glu Lys Tyr Asp Ser Cys Gly Ser Lys Glu Cys Asp Lys Lys
 15 20 25 30
 TGC AAA TAT GAC GGA GTT GAG GAG GAA GAC GAC GAG GAA CCT AAT GTG 147
 Cys Lys Tyr Asp Gly Val Glu Glu Glu Asp Asp Glu Glu Pro Asn Val
 35 40 45
 CCA TGC CTA GTA CGT GTG TGT CAT CAA GAT TGC GTA TGC GAA GAA GGA 195
 Pro Cys Leu Val Arg Val Cys His Gln Asp Cys Val Cys Glu Glu Gly
 50 55 60
 TTC TAT AGA AAC AAA GAT GAC AAA TGT GTA TCA GCA GAA GAG TGC GAA 243
 Phe Tyr Arg Asn Lys Asp Asp Lys Cys Val Ser Ala Glu Asp Cys Glu

65	70	75	
CTT GAC AAT ATG GAC TTT ATA TAT CCC GGA ACT CGA AAC TGAACGAAGG CTC			295
Leu Asp Asn Met Asp Phe Ile Tyr Pro Gly Thr Arg Asn			
80	85	90	
CATTCTTGCT GCACAAGATC GATTGTCTCT CCCCTGCATC TCAGTAGTTT TGCTACATTG			355
TATATGGTAG CAAAAAATTA GCTTAGGGAG AATAAAATCT TTACCTATAT TTAATCAATG			415
AAGTATTCTC TTTCT			430

<210> 20
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 <212> PRT
 <213> Ancylostoma caninum

<400> 18

Met	Lys	Met	Leu	Tyr	Ala	Ile	Ala	Ile	Met	Phe	Leu	Leu	Val	Ser	Leu
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Cys	Ser	Ala	Arg	Thr	Val	Arg	Lys	Ala	Tyr	Pro	Glu	Cys	Gly	Glu	Asn
		20					25					30			
Glu	Trp	Leu	Asp	Asp	Cys	Gly	Thr	Gln	Lys	Pro	Cys	Glu	Ala	Lys	Cys
	35					40					45				
Asn	Glu	Glu	Pro	Pro	Glu	Glu	Glu	Asp	Pro	Ile	Cys	Arg	Ser	Arg	Gly
	50					55				60					
Cys	Leu	Leu	Pro	Pro	Ala	Cys	Val	Cys	Lys	Asp	Gly	Phe	Tyr	Arg	Asp
65					70				75					80	
Thr	Val	Ile	Gly	Asp	Cys	Val	Arg	Glu	Glu	Glu	Cys	Asp	Gln	His	Glu
			85					90					95		
Ile	Ile	His	Val												
			100												

<210> 21
 <211> 98
 <212> PRT
 <213> Ancylostoma caninum

<400> 21

Met	Lys	Met	Leu	Tyr	Ala	Ile	Ala	Ile	Met	Phe	Leu	Leu	Val	Ser	Leu
1			5					10					15		
Cys	Ser	Thr	Arg	Thr	Val	Arg	Lys	Ala	Tyr	Pro	Glu	Cys	Gly	Glu	Asn
		20					25					30			
Glu	Trp	Leu	Asp	Val	Cys	Gly	Thr	Lys	Lys	Pro	Cys	Glu	Ala	Lys	Cys
	35					40					45				
Ser	Glu	Glu	Glu	Glu	Glu	Asp	Pro	Ile	Cys	Arg	Ser	Phe	Ser	Cys	Pro
	50					55				60					
Gly	Pro	Ala	Ala	Cys	Val	Cys	Glu	Asp	Gly	Phe	Tyr	Arg	Asp	Thr	Val
65				70					75					80	
Ile	Gly	Asp	Cys	Val	Lys	Glu	Glu	Glu	Cys	Asp	Gln	His	Glu	Ile	Ile
			85					90					95		
His	Val														

<210> 22
 <211> 94
 <212> PRT
 <213> Ancylostoma ceylanicum

<400> 22

Met	Arg	Thr	Leu	Tyr	Leu	Ile	Ser	Ile	Trp	Leu	Phe	Leu	Ile	Ser	Gln
1				5					10					15	
Cys	Asn	Gly	Lys	Ala	Phe	Pro	Lys	Cys	Asp	Val	Asn	Glu	Arg	Phe	Glu
			20					25					30		
Val	Cys	Gly	Asn	Leu	Lys	Glu	Cys	Glu	Leu	Lys	Cys	Asp	Glu	Asp	Pro
		35					40					45			
Lys	Ile	Cys	Ser	Arg	Ala	Cys	Ile	Arg	Pro	Pro	Ala	Cys	Val	Cys	Asp
	50					55					60				
Asp	Gly	Phe	Tyr	Arg	Asp	Lys	Tyr	Gly	Phe	Cys	Val	Glu	Glu	Asp	Glu
65				70						75					80
Cys	Asn	Asp	Met	Glu	Ile	Ile	Thr	Phe	Pro	Pro	Glu	Thr	Lys		
				85					90						

<210> 23

<211> 96

<212> PRT

<213> Ancylostoma ceylanicum

<400> 23

Met	Ser	Thr	Leu	Tyr	Val	Ile	Ala	Ile	Cys	Leu	Leu	Leu	Val	Ser	Gln
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Cys	Asn	Gly	Arg	Thr	Val	Lys	Lys	Cys	Gly	Lys	Asn	Glu	Arg	Tyr	Asp
			20					25					30		
Asp	Cys	Gly	Asn	Ala	Lys	Asp	Cys	Glu	Thr	Lys	Cys	Gly	Glu	Glu	Glu
		35					40					45			
Lys	Val	Cys	Arg	Ser	Arg	Glu	Cys	Thr	Ser	Pro	Gly	Ala	Cys	Val	Cys
	50					55					60				
Glu	Gln	Gly	Phe	Tyr	Arg	Asp	Pro	Ala	Gly	Asp	Cys	Val	Thr	Asp	Glu
65				70						75					80
Glu	Cys	Asp	Glu	Trp	Asn	Asn	Met	Glu	Ile	Ile	Thr	Met	Pro	Lys	Gln
				85					90					95	

<210> 23

<211> 96

<212> PRT

<213> Ancylostoma ceylanicum

<400> 23

<210> 24

<211> 108

<212> PRT

<213> Ancylostoma ceylanicum

<400> 24

Met	Ala	Val	Leu	Tyr	Ser	Val	Ala	Ile	Ala	Leu	Leu	Leu	Val	Ser	Gln
1				5					10					15	
Cys	Ser	Gly	Lys	Pro	Asn	Asn	Val	Met	Thr	Asn	Ala	Cys	Gly	Leu	Asn
			20					25					30		
Glu	Tyr	Phe	Ala	Glu	Cys	Gly	Asn	Met	Lys	Glu	Cys	Glu	His	Arg	Cys
		35					40					45			
Asn	Glu	Glu	Glu	Asn	Glu	Glu	Arg	Asp	Glu	Glu	Arg	Ile	Thr	Ala	Cys

50		55		60											
Leu	Ile	Arg	Val	Cys	Phe	Arg	Pro	Gly	Ala	Cys	Val	Cys	Lys	Asp	Gly
65					70					75					80
Phe	Tyr	Arg	Asn	Arg	Thr	Gly	Ser	Cys	Val	Glu	Glu	Asp	Asp	Cys	Glu
			85						90					95	
Tyr	Glu	Asn	Met	Glu	Phe	Ile	Thr	Phe	Ala	Pro	Glu				
			100						105						

<210> 25
 <211> 82
 <212> PRT
 <213> Ancylostoma ceylanicum

<400> 25

Val	Pro	Ile	Cys	Gly	Ser	Asn	Glu	Arg	Tyr	Ser	Asp	Cys	Gly	Asn	Asp
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Lys	Gln	Cys	Glu	Arg	Lys	Cys	Asn	Glu	Asp	Asp	Tyr	Glu	Lys	Gly	Asp
			20					25					30		
Glu	Ala	Cys	Arg	Ser	His	Val	Cys	Glu	Arg	Pro	Gly	Ala	Cys	Val	Cys
		35					40					45			
Glu	Asp	Gly	Phe	Tyr	Arg	Asn	Lys	Lys	Gly	Ser	Cys	Val	Glu	Ser	Asp
	50					55				60					
Asp	Cys	Glu	Tyr	Asp	Asn	Met	Asp	Phe	Ile	Thr	Phe	Ala	Pro	Glu	Thr
65					70					75				80	
Ser	Arg														

<210> 26
 <211> 75
 <212> PRT
 <213> Ancylostoma duodenale

<400> 26

Lys	Cys	Pro	Thr	Asp	Glu	Trp	Phe	Asp	Trp	Cys	Gly	Thr	Tyr	Lys	His
1			5						10					15	
Cys	Glu	Leu	Lys	Cys	Asp	Arg	Glu	Leu	Thr	Glu	Glu	Glu	Gln	Ala	Cys
		20					25						30		
Leu	Ser	Arg	Val	Cys	Glu	Lys	Ser	Ala	Cys	Val	Cys	Asn	Asp	Gly	Leu
		35					40					45			
Tyr	Arg	Asp	Lys	Phe	Gly	Asn	Cys	Val	Glu	Lys	Asp	Glu	Cys	Asn	Asp
	50					55				60					
Met	Glu	Ile	Ile	Thr	Phe	Ala	Pro	Glu	Thr	Lys					
65				70						75					

<210> 27
 <211> 102
 <212> PRT
 <213> Ancylostoma duodenale

<400> 27

Met	Arg	Met	Leu	Tyr	Leu	Val	Pro	Ile	Trp	Leu	Leu	Leu	Ile	Ser	Leu
1			5						10					15	
Cys	Ser	Gly	Lys	Ala	Ala	Lys	Lys	Cys	Gly	Leu	Asn	Glu	Arg	Leu	Asp
		20					25					30			
Cys	Gly	Asn	Leu	Lys	Gln	Cys	Glu	Pro	Lys	Cys	Ser	Asp	Leu	Glu	Ser

35 40 45
 Glu Glu Tyr Glu Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys
 50 55 60
 Ser Arg Arg Val Cys Val Cys Asp Glu gly Phe Tyr Arg Asn Lys Lys
 65 70 75 80
 Gly Lys Cys Val Ala Lys Asp Val Cys Glu Asp Asp Asn Met Glu Ile
 85 90 95
 Ile Thr Phe Pro Pro Glu
 100

<210> 28
 <211> 78
 <212> PRT
 <213> Ancylostoma duodenale

<400> 28

Asp Glu Cys Gly Pro Asp Glu Trp Phe Asp Tyr Cys Gly Asn Tyr Lys
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 Lys Cys Glu Arg Lys Cys Ser Glu Glu Thr Ser Glu Lys Asn Glu Glu
 20 25 30
 Ala Cys Leu Ser Arg Ala Cys Thr Gly Arg Ala Cys Val Cys Lys Asp
 35 40 45
 Gly Leu Tyr Arg Asp Asp Phe Gly Asn Cys Val Pro His Asp Glu Cys
 50 55 60
 Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Glu Thr Lys His
 65 70 75

<210> 29
 <211> 76
 <212> PRT
 <213> Helogmosomoides polygyrus

<400> 29

Met Ile Arg Lys Leu Val Leu Leu Thr Ala Ile Val Thr Val Val Leu
 1 5 10 15
 Ser Ala Lys Thr Cys Gly Pro Asn Glu Glu Tyr Thr Glu Cys Gly Thr
 20 25 30
 Pro Cys Glu Pro Lys Cys Asn Glu Pro Met Pro Asp Ile Cys Thr Len
 35 40 45
 Asn Cys Ile Val Asn Val Cys Gln Cys Lys Pro Gly Phe Lys Arg Gly
 50 55 60
 Pro Lys Gly Cys Val Ala Pro Gly Pro Gly Cys Lys
 65 70 75

<210> 30
 <211> 187
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<400> 30

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GAATTC	CCGCG	GAATTC	CGCA	ACG	ATG	AAG	ACG	CTC	TAT	ATT	ATC	GCT	ATA	TGC	53	
					Met	Lys	Thr	Leu	Tyr	Ile	Ile	Ala	Ile	Cys		
					1					5				10		
TCG	CTC	CTC	ATT	TCG	TTG	TGT	ACT	GGA	AGA	CCG	GAA	AAA	AAG	TGC	GGT	101
Ser	Leu	Leu	Ile	Ser	Leu	Cys	Thr	Gly	Arg	Pro	Glu	Lys	Lys	Cys	Gly	
					15				20					25		
CCC	GGT	GAA	AGA	CTC	GCC	TGT	GGC	AAT	AAG	AAG	CCA	TGC	GAG	CGC	AAG	149
Pro	Gly	Glu	Arg	Leu	Ala	Cys	Gly	Asn	Lys	Lys	Pro	Cys	Glu	Arg	Lys	
					30				35					40		
TGC	AAA	ATA	GAG	AGA	AGT	GAG	GAG	GAG	GAT	GAC	TAC	CCA	GAG	GGA	ACC	197
Cys	Lys	Ile	Glu	Thr	Ser	Glu	Glu	Glu	Asp	Asp	Tyr	Pro	Glu	Gly	Thr	
					45				50					55		
GAA	CGT	TTT	CGA	TGC	CTC	TTA	CGT	GTG	TGT	GAT	CAG	CCT	TAT	GAA	TGC	245
Glu	Arg	Phe	Arg	Cys	Leu	Leu	Arg	Val	Cys	Asp	Gln	Pro	Tyr	Glu	Cys	
					60				65					70		
ATA	TGC	GAT	GAT	GGA	TAC	TAC	AGA	AAC	AAG	AAA	GGC	GAA	TGT	GTG	ACT	293
Ile	Cys	Asp	Asp	Gly	Tyr	Tyr	Arg	Asn	Lys	Lys	Gly	Glu	Cys	Val	Thr	
					75				80					85		
GAT	GAT	GTA	TGC	CAG	GAA	GAC	TTT	ATG	GAG	TTT	ATT	ACT	TTC	GCA	CCA	341
Asp	Asp	Val	Cys	Gln	Glu	Asp	Phe	Met	Glu	Phe	Ile	Thr	Phe	Ala	Pro	
					95				100					105		
TAAACCCAAT AATGACCACT GGCTCCCATTT CTTCGTGACC AGCGTCGGTG GTTGACAGTC																401
TCCCCTGCAT CTTAGTAGTT TTGCTTGATA ATGTATCCAT AAACAGTACT TTCTGAGATA																461
GAATAAAGCT CTCAACT																478

<210> 33
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 <212> DNA
 <213> Ancylostoma caninum

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GAATTC	CGTA	CTACT	CAACG	ATG	AAG	ACG	CTC	TAT	ATT	ATC	GCT	ATA	TGC	50		
					Met	Lys	Thr	Leu	Tyr	Ile	Ile	Ala	Ile	Cys		
					1					5				10		
TCG	CTG	CTC	TTT	TCA	CTG	TGT	ACT	GGA	AGA	CCG	GAA	AAA	AAG	TGC	GGT	98
Ser	Leu	Leu	Phe	Ser	Leu	Cys	Thr	Gly	Arg	Pro	Glu	Lys	Lys	Cys	Gly	
					15				20					25		

CCC GGT GAA AGA CTC GAC TGT GCC AAC AAG AAG CCA TGC GAG CCC AAG	146
Pro Gly Glu Arg Leu Asp Cys Ala Asn Lys Lys Pro Cys Glu Pro Lys	
30 35 40	
TGC AAA ATA GAG ACA AGT GAG GAG GAG GAT GAC GAC GTA GAG GAT ACC	194
Cys Lys Ile Glu Thr Ser Glu Glu Glu Asp Asp Asp Val Glu Asp Thr	
45 50 55	
GAT GTG AGA TGC CTC GTA CGT GTG TGT GAA CGT CCT CTT AAA TGC ATA	242
Asp Val Arg Cys Leu Val Arg Val Cys Glu Arg Pro Leu Lys Cys Ile	
60 65 70	
TGC AAG GAT GGA TAC TAC AGA AAC AAG AAA GGC GAA TGT GTG ACT GAT	290
Cys Lys Asp Gly Tyr Tyr Arg Asn Lys Lys Gly Glu Cys Val Thr Asp	
75 80 85 90	
GAT GTA TGC CAG GAA GAC TTT ATG GAG TTT ATT ACT TTC GCA CCA TAAACC	341
Asp Val Cys Gln Glu Asp Phe Met Glu Phe Ile Thr Phe Ala Pro	
95 100 105	

CAATAATGAC CACTGGCTCC CATTCTTCGT GATCAGCGTC GGTGGTTGAC AGTCTCCCCT 401

GCATCTTAGT TGCTTTGCTT GATAATCTAT ACATAAAACAG TACTTTCTGA GATAGAATAA 461

AGCTCTCAAC T 472

<210> 34
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 <212> DNA
 <213> Ancylostoma caninum

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Met	
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AAG ACG CTC TCT GCT ATC CCT ATA ATG CTG CTC CTG GTA TCG CAA TGC	107
Lys Thr Leu Ser Ala Ile Pro Ile Met Leu Leu Leu Val Ser Glu Cys	
5 10 15	
AGT GGA AAA TCA CTG TGG GAT CAG AAG TGT GGT GAG AAT GAA AGG CTC	155
Ser Gly Lys Ser Leu Trp Asp Gln Lys Cys Gly Glu Asn Glu Arg Leu	
20 25 30	
GAC TGT GGC AAT CAG AAG GAC TGT GAG CGC AAG TGC GAT GAT AAA AGA	203
Asp Cys Gly Asn Gln Lys Asp Cys Glu Arg Lys Cys Asp Asp Lys Arg	
35 40 45	
AGT GAA GAA GAA ATT ATG CAG GCA TGT CTC ACA CGT CAA TGT CTT CCT	251
Ser Glu Glu Glu Ile Met Gln Ala Cys Leu Thr Arg Gln Cys Leu Pro	
50 55 60 65	
CCT GTT TGC GTA TGT GAA GAT GGA TTC TAC AGA AAT GAC AAC GAC CAA	299
Pro Val Cys Val Cys Glu Asp Gly Phe Tyr Arg Asn Asp Asn Asp Gln	
70 75 80	
TGT GTT GAT GAA GAA GAA TGC AAT ATG GAG TTT ATT ACT TTC GCR CCA TG	349
Cys Val Asp Glu Glu Glu Cys Asn Met Glu Phe Ile Thr Phe Ala Pro	

85

90

95

AAGCAAATGA CAGCCGATGG TTTGGACTCT CGCTACAGAT CACAGCTTTA CTGTTTCCCT	409
TGCATCATAG TAGTTTTGCT AGATAGTGTA TATATTAGCA TGATTTTCTG ATAGGGAGAA	469
TAAAGCTTTC CAATTTTC	487

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GAATTCCGCG	GAATTCGC	AAC GAG AGC ATG AAG ACC CTC TAT ATT ATC GCT ATA TGC	
		Met Lys Thr Leu Tyr Ile Ile Ala Ile Cys	53
		1 5 10	
TCG CTC CTC ATT TCG CTG TGT ACT GGA AGA CCG GAA AAA AAG TGC GGT			101
Ser Leu Leu Ile Ser Leu Cys Thr Gly Arg Pro Glu Lys Lys Cys Gly			
	15 20 25		
CCC GGT GAA AGA CTC GAC TGT GCC AAC AAG AAG CCA TGC GAG CCC AAG			149
Pro Gly Glu Arg Leu Asp Cys Ala Asn Lys Lys Pro Cys Glu Pro Lys			
	30 35 40		
TGC AAA ATA GAG ACA AGT GAG GAG GAT GAC GAC GTA GAG GAA ACC			197
Cys Lys Ile Glu Thr Ser Glu Glu Asp Asp Asp Val Glu Glu Thr			
	45 50 55		
GAT GTG AGA TGC CTC GTA CGT GTG TGT GAA CGG CCT CTT AAA TGC ATA			245
Asp Val Arg Cys Leu Val Arg Val Cys Glu Arg Pro Leu Lys Cys Ile			
	60 65 70		
TGC AAG GAT GGA TAC TAC AGA AAC AAG AAA GGC GAA TGT GTG ACT GAT			293
Cys Lys Asp Gly Tyr Tyr Arg Asn Lys Lys Gly Glu Cys Val Thr Asp			
	75 80 85 90		
GAT GTA TGC CAG GAA GAC TTT ATG GAG TTT ATT ACT TTC GCA CCA TAAACC			344
Asp Val Cys Gln Glu Asp Phe Met Glu Phe Ile Thr Phe Ala Pro			
	95 100 105		
CAATAATGAC	CACTGGCTCC	CATTCTTCGT GATCAGCGTC GGTGGTTGAC AGTCTCCCCCT	404
GCATCTTAGT	TGCTTTGCTT	GATAATCTAT ACATAAACAG TACTTTCTGA GATAGAATAA	464
AGCTCTCAAC	TAC		477

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<210> 36
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<400> 36

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1 5 10	
CTC ATT TCG CAA TGC AGT GGA AAA TCC GCG AAG AAA TGT GGT CTC AAT	97
Leu Ile Ser Gln Cys Ser Gly Lys Ser Ala Lys Lys Cys Gly Leu Asn	
15 20 25	
GAA AAA TTG GAC TGT GGC AAT CTG AAG GCA TGC GAG AAA AAG TGC AGC	145
Glu Lys Leu Asp Cys Gly Asn Leu Lys Ala Cys Glu Lys Lys Cys Ser	
30 35 40	
GAC TTG GAC AAT GAG GAG GAT TAT AAG GAG GAA GAT GAG TCG AAA TGC	193
Asp Leu Asp Asn Glu Glu Asp Tyr Lys Glu Glu Asp Glu Ser Lys Cys	
45 50 55 60	
CGA TCA CGT GAA TGT AGT CGT CGT GTT TGT GTA TGC GAT GAA GGA TTC	241
Arg Ser Arg Glu Cys Ser Arg Arg Val Cys Val Cys Asp Glu Gly Phe	
65 70	
TAC AGA AAC AAG AAG GGC CAA TGT GTG ACA AGA GAT GAT TGC GAG TAT	289
Tyr Arg Asn Lys Lys Gly Gln Cys Val Thr Arg Asp Asp Cys Glu Tyr	
80 85 90	
GAC AAT ATG GAG ATT ATC ACT TTT CCA CCA GAA GAT AAA TGT GGT CCC	337
Asp Asn Met Glu Ile Ile Thr Phe Pro Pro Glu Asp Lys Cys Gly Pro	
95 100 101	
GAT GAA TGG TTC GAC TGG TGT GGA ACT TAC AAG CAG TGT GAG CGC AAG	385
Asp Glu Trp Phe Asp Trp Cys Gly Thr Tyr Lys Gln Cys Glu Arg Lys	
110 115 120	
TGC AAT AAG GAG CTA AGT GAG AAA GAT GAA GAG GCA TGC CTC TCA CGT	433
Cys Asn Lys Glu Leu Ser Glu Lys Asp Glu Glu Ala Cys Leu Ser Arg	
125 130 135	
GCT TGT ACT GGT CGT GCT TGT GTT TGC AAC GAC GGA CTG TAC AGA GAC	481
Ala Cys Thr Gly Arg Ala Cys Val Cys Asn Asp Gly Leu Tyr Arg Asp	
145 150 155	
GAT TTT GGC AAT TGT GTT GAG AAA GAC GAA TGT AAC GAT ATG GAG ATT	529
Asp Phe Gly Asn Cys Val Glu Lys Asp Glu Cys Asn Asp Met Glu Ile	
160 165 170	
ATC ACT TTT CCA CCG GAA ACC AAA CAC TGACCAAAGG CTCTAACTCT CGCTACAT	584
Ile Thr Phe Pro Pro Glu Thr Lys His	
175 180	
AACGTCAGTG CTTGAATTGC CCCTTTACGA GTTAGTAATT TTGACTAACT CTGTGTAATT	644
GAGCATTGTC TACTGATGGT GAAAATGAAG TGTTCAATGT CT	686

<210> 37
 <211> 707
 <212> DNA
 <213> Ancylostoma caninum

<220>
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 <222> (34)..(576)

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Met Leu Met Leu Tyr Leu Val	
1 5	
CCT ATC TGG TTC CTG CTC ATT TCG CAA TGC AGT GGA AAA TCC GCG AAG	102
Pro Ile Trp Phe Leu Leu Ile Ser Glu Cys Ser Gly Lys Ser Ala Lys	
10 15 20	
AAA TGT GGC CTC AAT GAA AAA TTG GAC TGT GGC AAT CTG AAG GCA TGC	150
Lys Cys Gly Leu Asn Glu Lys Leu Asp Cys Gly Asn Leu Lys Ala Cys	
25 30 35	
GAG AAA AAG TGC AGC GAC TTG GAC AAT GAG GAG GAT TAT GGG GAG GAA	198
Glu Lys Lys Cys Ser Asp Leu Asp Asn Glu Glu Asp Tyr Gly Glu Glu	
40 45 50 55	
GAT GAG TCG AAA TGC CGA TCA CGT GAA TGT ATT GGT CGT GTT TGC GTA	246
Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ile Gly Arg Val Cys Val	
60 65 70	
TGC GAT GAA GGA TTC TAC AGA AAC AAG AAG GGC CAA TGT GTG ACA AGA	294
Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Gln Cys Val Thr Arg	
75 80 85	
GAC GAT TGC GAG TAT GAC AAT ATG GAG ATT ATC ACT TTT CCA CCA GAA	342
Asp Asp Cys Glu Tyr Asp Asn Met Glu Ile Ile Thr Phe Pro Pro Glu	
90 95 100	
GAT AAA TGT GGT CCC GAT GAA TGG TTC GAC TGG TGT GGA ACT TAC AAG	390
Asp Lys Cys Gly Pro Asp Glu Trp Phe Asp Trp Cys Gly Thr Tyr Lys	
105 110 115	
CAG TGT GAG CGC AAG TGC AGT GAG GAG CTA AOT GAG AAA AAT GAG GAG	438
Gln Cys Glu Arg Lys Cys Ser Glu Glu Leu Ser Glu Lys Asn Glu Glu	
120 125 130 135	
GCA TGC CTC TCA CGT GCT TGT ACT GGT CGT GCT TGC GTT TGC AAC GAC	486
Ala Cys Leu Ser Arg Ala Cys Thr Gly Arg Ala Cys Val Cys Asn Asp	
140 145 150	
GGA TTG TAT AGA GAC GAT TTT GGC AAT TGT GTT GAG AAA GAC GAA TGT	534
Gly Leu Tyr Arg Asp Asp Phe Gly Asn Cys Val Glu Lys Asp Glu Cys	
155 160 165	
AAC GAT ATG GAG ATT ATC ACT TTT CCA CCG GAA ACC AAA CAC TGACCAAAGG	586
Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Glu TSr Lys His	
170 175 180	
CTCTAGCTCT CGCTACATAA CGTCAGTGCT TGAATTGTCC CTTTACGTGT TAGTAATTTT	646
GACTAACTCT GTGTATTTGA GCATTGTCTA CTAATGGTGA AAATGAAGCT TTTCAATGAC	706
T	707

<210> 38
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 <212> DNA

<213> Ancylostoma caninum

<220>

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<222> (31)..(309)

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<221> misc_feature

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<400> 38

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ATA ACG TTG CTC CTG GTA TGG CAA TGC AGT GCA AGA ACA GCG AGG AAA      102
Ile Thr Leu Leu Leu Val Trp Gln Cys Ser Ala Arg Thr Ala Arg Lys
   10           15           20
CCC CCA ACG TGT GGT GAA AAT GAA AGG GTC GAA TGG TGT GGC AAG CAG      150
Pro Pro Thr Cys Gly Glu Asn Glu Arg Val Glu Trp Cys Gly Lys Gln
   25           30           35           40
TGC GAG ATC ACA TGT GAC GAC CCA GAT AAG ATA TGC CGC TCA CTC GCT      198
Cys Glu Ile Thr Cys Asp Asp Pro Asp Lys Ile Cys Arg Ser Leu Ala
           45           50           55
TGT CCT GGT CCT CCT GCT TGC GTA TGC GAC GAC GGA TAC TAC AGA GAC      246
Cys Pro Gly Pro Pro Ala Cys Val Cys Asp Asp Gly Tyr Tyr Arg Asp
           60           65           70
ACG AAC GTT GGC TTG TGT GTA CAA TAT GAC GAA TGC AAC GAT ATG GAT      294
Thr Asn Val Gly Leu Cys Val Gln Tyr Asp Glu Cys Asn Asp Met Asp
   75           80           85
ATT ATT ATG GTT TCA TAGGGTTGAC TGAAGAATCG AACAAACCGGT GCACAACTTC      349
Ile Ile Met Val Ser
   90

TATGCTTGAC TATCTCTCTT GCATCATGCA AGTTTAGCTA GATAGTGTAT ATATTAGCAA      409

GACCCCTTGG GGAGAATGAA GCTTCCCAAC TATATTAAAT CAATAACGTT TTCGCTTCAT      469

GTACACGTGC TCAGCACATT CATATCCACT CCTCACACTC CATGAAAGCA GTGAAATGTT      529
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<210> 39

<211> 361

<212> DNA

<213> Necator americanus

<220>

<221> CDS

<222> (16)..(252)

<220>

<221> misc_feature

<223>

<400> 39

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GCCAACTCTT CGAAC ATG ATT CGA GGC CTC GTT CTT CTT TCT CTC CTG TTT      51
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	Met	Ile	Arg	Gly	Leu	Val	Leu	Leu	Ser	Leu	Leu	Phe	
	1			5					10				
TGC GTC ACT TTT GCA GCG AAG AGA GAT TGT CCA GCA AAT GAG GAA TGG													99
Cys Val Thr Phe Ala Ala Lys Arg Asp Cys Pro Ala Asn Glu Glu Trp													
	15			20					25				
AGG GAA TGT GGC ACT CCA TGT GAA CCA AAA TGC AAT CAA CCG ATG CCA													147
Arg Glu Cys Gly Thr Pro Cys Glu Pro Lys Cys Asn Gln Pro Met Pro													
	30			35					40				
GAT ATA TGT ACT ATG AAT TGT ATC GTC GAT GTG TGT CAA TGC AAG GAG													195
Asp Ile Cys Thr Met Asn Cys Ile Val Asp Val Cys Gln Cys Lys Glu													
	45			50					55				60
GGA TAC AAG CGT CAT GAA ACG AAG GGA TGC TTA AAG GAA GGA TCA GCT													243
Gly Tyr Lys Arg His Glu Thr Lys Gly Cys Leu Lys Glu Gly Ser Ala													
	65								70				75
GAT TGT AAA TAAGTTATCA GAACGCTCGT TTTGTCTTAC ATTAGATGGG TGAGCTGATG													302
Asp Cys Lys													
TATCTGTCAG ATAAACTCTT TCTTCTAAAA AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA													361

<210> 40
 <211> 77
 <212> PRT
 <213> Ancylostoma caninum

<220>
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 <223>

<400> 40

Lys Ala Tyr Pro Glu Cys Gly Glu Asn Glu Trp Leu Asp Asp Cys Gly	1		5			10			15
Thr Gln Lys Pro Cys Glu Ala Lys Cys Asn Glu Glu Pro Pro Glu Glu									
	20					25			30
Glu Asp Pro Ile Cys Arg Ser Arg Gly Cys Leu Leu Pro Pro Ala Cys									
	35					40			45
Val Cys Lys Asp Gly Phe Tyr Arg Asp Thr Val Ile Gly Asp Cys Val									
	50					55			60
Arg Glu Glu Glu Cys Asp Glu His Glu Ile Ile His Val									
	65					70			75

<210> 41
 <211> 75
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 41

Lys Ala Tyr Pro Glu Cys Gly Glu Asn Glu Trp Leu Asp Val Cys Gly

1		5		10		15									
Thr	Lys	Lys	Pro	Cys	Glu	Ala	Lys	Cys	Ser	Glu	Glu	Glu	Glu	Glu	Asp
		20		25		30									
Pro	Ile	Cys	Arg	Ser	Phe	Ser	Cys	Pro	Gly	Pro	Ala	Ala	Cys	Val	Cys
		35		40		45									
Glu	Asp	Gly	Phe	Tyr	Arg	Asp	Thr	Val	Ile	Gly	Asp	Cys	Val	Lys	Glu
	50				55				60						
Glu	Glu	Cys	Asp	Gln	His	Glu	Ile	Ile	His	Val					
65				70					75						

<210> 42
 <211> 74
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 42

Arg	Thr	Ala	Arg	Lys	Pro	Pro	Thr	Cys	Gly	Glu	Asn	Glu	Arg	Val	Glu
1				5				10					15		
Trp	Cys	Gly	Lys	Glu	Cys	Glu	Ile	Thr	Cys	Asp	Asp	Pro	Asp	Lys	Ile
		20					25					30			
Cys	Arg	Ser	Leu	Ala	Cys	Pro	Gly	Pro	Pro	Ala	Cys	Val	Cys	Asp	Asp
		35				40					45				
Gly	Tyr	Tyr	Arg	Asp	Thr	Asn	Val	Gly	Leu	Cys	Val	Gln	Tyr	Asp	Glu
	50				55					60					
Cys	Asn	Asp	Met	Asp	Ile	Ile	Met	Val	Ser						
65				70											

<210> 43
 <211> 88
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 43

Lys	Pro	Ser	Glu	Lys	Glu	Cys	Gly	Pro	His	Glu	Arg	Leu	Asp	Cys	Gly
1				5				10						15	
Asn	Lys	Lys	Pro	Cys	Glu	Arg	Lys	Cys	Lys	Ile	Glu	Thr	Ser	Glu	Glu
		20					25					30			
Glu	Asp	Asp	Tyr	Glu	Glu	Gly	Thr	Glu	Arg	Phe	Arg	Cys	Leu	Leu	Arg
		35				40					45				
Val	Cys	Asp	Glu	Pro	Tyr	Glu	Cys	Ile	Cys	Asp	Asp	Gly	Tyr	Tyr	Arg
	50				55				60						
Asn	Lys	Lys	Gly	Glu	Cys	Val	Thr	Asp	Asp	Val	Cys	Glu	Glu	Asp	Phe
65				70					75					80	
Met	Glu	Phe	Ile	Thr	Phe	Ala	Pro								
				85											

<210> 44
 <211> 87
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 44

Arg	Pro	Glu	Lys	Lys	Cys	Gly	Pro	Gly	Glu	Arg	Leu	Ala	Cys	Gly	Asn
1				5					10					15	
Lys	Lys	Pro	Cys	Glu	Arg	Lys	Cys	Lys	Ile	Glu	Thr	Ser	Glu	Glu	Glu
			20					25					30		
Asp	Asp	Tyr	Pro	Glu	Gly	Thr	Glu	Arg	Phe	Arg	Cys	Leu	Leu	Arg	Val
		35					40					45			
Cys	Asp	Gln	Pro	Tyr	Glu	Cys	Ile	Cys	Asp	Asp	Gly	Tyr	Tyr	Arg	Asn
	50					55					60				
Lys	Lys	Gly	Glu	Cys	Val	Thr	Asp	Asp	Val	Cys	Gln	Glu	Asp	Phe	Met
65					70					75					80
Glu	Phe	Ile	Thr	Phe	Ala	Pro									
							85								

<210> 45
 <211> 86
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 45

Arg	Pro	Glu	Lys	Lys	Cys	Gly	Pro	Gly	Glu	Arg	Leu	Asp	Cys	Ala	Asn
1				5					10					15	
Lys	Lys	Pro	Cys	Glu	Pro	Lys	Cys	Lys	Ile	Glu	Thr	Ser	Glu	Glu	Glu
			20					25					30		
Asp	Asp	Asp	Val	Glu	Asp	Thr	Asp	Val	Arg	Cys	Leu	Val	Arg	Val	Cys
		35					40					45			
Glu	Arg	Pro	Leu	Lys	Cys	Ile	Cys	Lys	Asp	Gly	Tyr	Tyr	Arg	Asn	Lys
	50					55					60				
Lys	Gly	Glu	Cys	Val	Thr	Asp	Asp	Val	Cys	Gln	Glu	Asp	Phe	Met	Glu
65					70					75					80
Phe	Ile	Thr	Phe	Ala	Pro										
							85								

<210> 46
 <211> 86
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature

<223>

<400> 46

```
Arg Pro Glu Lys Lys Cys Gly Pro Gly Glu Arg Leu Asp Cys Ala Asn
 1              5              10              15
Lys Lys Pro Cys Glu Pro Lys Cys Lys Ile Glu Thr Ser Glu Glu Glu
      20              25              30
Asp Asp Asp Val Glu Glu Thr Asp Val Arg Cys Leu Val Arg Val Cys
      35              40              45
Glu Arg Pro Leu Lys Cys Ile Cys Lys Asp Gly Tyr Tyr Arg Asn Lys
      50              55              60
Lys Gly Glu Cys Val Thr Asp Asp Val Cys Gln Glu Asp Phe Met Glu
65              70              75              80
Phe Ile Thr Phe Ala Pro
      85
```

<210> 47

<211> 78

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 47

```
Lys Ser Leu Trp Asp Gln Lys Cys Gly Glu Asn Glu Arg Leu Asp Cys
 1              5              10              15
Gly Asn Gln Lys Asp Cys Glu Arg Lys Cys Asp Asp Lys Arg Ser Glu
      20              25              30
Glu Glu Ile Met Gln Ala Cys Leu Thr Arg Gln Cys Leu Pro Pro Val
      35              40              45
Cys Val Cys Glu Asp Gly Phe Tyr Arg Asn Asp Asn Asp Gln Cys Val
      50              55              60
Asp Glu Glu Glu Cys Asn Met Glu Phe Ile Thr Phe Ala Pro
65              70              75
```

<210> 48

<211> 89

<212> PRT

<213> Ancylostoma ceylanicum

<220>

<221> misc_feature

<223>

<400> 48

```
Lys Pro Asn Asn Val Met Thr Asn Ala Cys Gly Leu Asn Glu Tyr Phe
 1              5              10              15
Ala Glu Cys Gly Asn Met Lys Glu Cys Glu His Arg Cys Asn Glu Glu
      20              25              30
Glu Asn Glu Glu Arg Asp Glu Glu Arg Ile Thr Ala Cys Leu Ile Arg
      35              40              45
```

Val Cys Phe Arg Pro Gly Ala Cys Val Cys Lys Asp Gly Phe Tyr Arg
50 55 60
Asn Arg Thr Gly Ser Cys Val Glu Glu Asp Asp Cys Glu Tyr Glu Asn
65 70 75 80
Met Glu Phe Ile Thr Phe Ala Pro Glu
85

<210> 49
<211> 82
<212> PRT
<213> Ancylostoma ceylanicum

<220>
<221> misc_feature
<223>

<400> 49

Val Pro Ile Cys Gly Ser Asn Glu Arg Tyr Ser Asp Cys Gly Asn Asp
1 5 10 15
Lys Gln Cys Glu Arg Lys Cys Asn Glu Asp Asp Tyr Glu Lys Gly Asp
20 25 30
Glu Ala Cys Arg Ser His Val Cys Glu Arg Pro Gly Ala Cys Val Cys
35 40 45
Glu Asp Gly Phe Tyr Arg Asn Lys Lys Gly Ser Cys Val Glu Ser Asp
50 55 60
Asp Cys Glu Tyr Asp Asn Met Asp Phe Ile Thr Phe Ala Pro Glu Thr
65 70 75 80
Ser Arg

<210> 50
<211> 84
<212> PRT
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 50

Lys Ser Ala Lys Lys Cys Gly Leu Asn Glu Lys Leu Asp Cys Gly Asn
1 5 10 15
Leu Lys Ala Cys Glu Lys Lys Cys Ser Asp Leu Asp Asn Glu Glu Asp
20 25 30
Tyr Lys Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ser Arg
35 40 45
Arg Val Cys Val Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Gln
50 55 60
Cys Val Thr Arg Asp Asp Cys Glu Tyr Asp Asn Met Glu Ile Ile Thr
65 70 75 80
Phe Pro Pro Glu

<210> 51
<211> 84
<212> PRT
<213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 51

```

Lys Ser Ala Lys Lys Cys Gly Leu Asn Glu Lys Leu Asp Cys Gly Asn
 1           5           10           15
Leu Lys Ala Cys Glu Lys Lys Cys Ser Asp Leu Asp Asn Glu Glu Asp
           20           25           30
Tyr Gly Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ile Gly
           35           40           45
Arg Val Cys Val Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Gln
           50           55           60
Cys Val Thr Arg Asp Asp Cys Glu Tyr Asp Asn Met Glu Ile Ile Thr
           65           70           75           80
Phe Pro Pro Glu
  
```

<210> 52
 <211> 83
 <212> PRT
 <213> Ancylostoma duodenale

<220>
 <221> misc_feature
 <223>

<400> 52

```

Lys Ala Ala Lys Lys Cys Gly Leu Asn Glu Arg Leu Asp Cys Gly Asn
 1           5           10           15
Leu Lys Gln Cys Glu Pro Lys Cys Ser Asp Leu Glu Ser Glu Glu Tyr
           20           25           30
Glu Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ser Arg Arg
           35           40           45
Val Cys Val Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Lys Cys
           50           55           60
Val Ala Lys Asp Val Cys Glu Asp Asp Asn Met Glu Ile Ile Thr Phe
           65           70           75           80
Pro Pro Glu
  
```

<210> 53
 <211> 78
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 53

```

Asp Lys Cys Gly Pro Asp Glu Trp Phe Asp Trp Cys Gly Thr Tyr Lys
 1           5           10           15
Gln Cys Glu Arg Lys Cys Asn Lys Glu Leu Ser Glu Lys Asp Glu Glu
           20           25           30
  
```

Ala	Cys	Leu	Ser	Arg	Ala	Cys	Thr	Gly	Arg	Ala	Cys	Val	Cys	Asn	Asp
	35						40					45			
Gly	Leu	Tyr	Arg	Asp	Asp	Phe	Gly	Asn	Cys	Val	Glu	Lys	Asp	Glu	Cys
	50					55					60				
Asn	Asp	Met	Glu	Ile	Ile	Thr	Phe	Pro	Pro	Glu	Thr	Lys	His		
65					70					75					

<210> 54
 <211> 78
 <212> PRT
 <213> Ancylostoma caninum

<220>
 <221> misc_feature
 <223>

<400> 54

Asp	Lys	Cys	Gly	Pro	Asp	Glu	Trp	Phe	Asp	Trp	Cys	Gly	Thr	Tyr	Lys
1				5				10					15		
Gln	Cys	Glu	Arg	Lys	Cys	Ser	Glu	Glu	Leu	Ser	Glu	Lys	Asn	Glu	Glu
			20					25				30			
Ala	Cys	Leu	Ser	Arg	Ala	Cys	Thr	Gly	Arg	Ala	Cys	Val	Cys	Asn	Asp
	35						40				45				
Gly	Leu	Tyr	Arg	Asp	Asp	Phe	Gly	Asn	Cys	Val	Glu	Lys	Asp	Glu	Cys
	50					55					60				
Asn	Asp	Met	Glu	Ile	Ile	Thr	Phe	Pro	Pro	Glu	Thr	Lys	His		
65					70					75					

<210> 55
 <211> 77
 <212> PRT
 <213> Ancylostoma duodenale

<220>
 <221> misc_feature
 <223>

<400> 55

Lys	Cys	Pro	Thr	Asp	Glu	Trp	Phe	Asp	Trp	Cys	Gly	Thr	Tyr	Lys	His
1				5				10					15		
Cys	Glu	Leu	Lys	Cys	Asp	Arg	Glu	Leu	Thr	Glu	Lys	Glu	Glu	Gln	Ala
			20					25				30			
Cys	Leu	Ser	Arg	Val	Cys	Glu	Lys	Ser	Ala	Cys	Val	Cys	Asn	Asp	Gly
	35					40					45				
Leu	Tyr	Arg	Asp	Lys	Phe	Gly	Asn	Cys	Val	Glu	Lys	Asp	Glu	Cys	Asn
	50					55					60				
Asp	Met	Glu	Ile	Ile	Thr	Phe	Ala	Pro	Glu	Glu	Thr	Lys			
65					70					75					

<210> 56
 <211> 78
 <212> PRT
 <213> Ancylostoma duodenale

<220>
 <221> misc_feature
 <223>

<400> 56

```

Asp Glu Cys Gly Pro Asp Glu Trp Phe Asp Tyr Cys Gly Asn Tyr Lys
 1          5          10          15
Lys Cys Glu Arg Lys Cys Ser Glu Glu Thr Ser Glu Lys Asn Glu Glu
          20          25          30
Ala Cys Leu Ser Arg Ala Cys Thr Gly Arg Ala Cys Val Cys Lys Asp
          35          40          45
Gly Leu Tyr Arg Asp Asp Phe Gly Asn Cys Val Pro His Asp Glu Cys
 50          55          60
Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Glu Thr Lys His
65          70          75

```

<210> 57
 <211> 75
 <212> PRT
 <213> Ancylostoma ceylanicum

<220>
 <221> misc_feature
 <223>

<400> 57

```

Lys Ala Phe Pro Lys Cys Asp Val Asn Glu Arg Phe Glu Val Cys Gly
 1          5          10          15
Asn Leu Lys Glu Cys Glu Leu Lys Cys Asp Glu Asp Pro Lys Ile Cys
          20          25          30
Ser Arg Ala Cys Ile Arg Pro Pro Ala Cys Val Cys Asp Asp Gly Phe
          35          40          45
Tyr Arg Asp Lys Tyr Gly Phe Cys Val Glu Glu Asp Glu Cys Asn Asp
 50          55          60
Met Glu Ile Ile Thr Phe Pro Pro Glu Thr Lys
65          70          75

```

<210> 58
 <211> 77
 <212> PRT
 <213> Ancylostoma ceylanicum

<220>
 <221> misc_feature
 <223>

<400> 58

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Arg Thr Val Lys Lys Cys Gly Lys Asn Glu Arg Tyr Asp Asp Cys Gly
 1          5          10          15
Asn Ala Lys Asp Cys Glu Thr Lys Cys Gly Glu Glu Glu Lys Val Cys
          20          25          30
Arg Ser Arg Glu Cys Thr Ser Pro Gly Ala Cys Val Cys Glu Gln Gly

```


<221> misc_feature

<223>

<400> 61

Lys Arg Asp Cys Pro Ala Asn Glu Glu Trp Arg Glu Cys Gly Thr Pro
1 5 10 15
Cys Glu Pro Lys Cys Asn Gln Pro Met Pro Asp Ile Cys Thr Met Asn
20 25 30
Cys Ile Val Asp Val Cys Gln Cys Lys Glu Gly Tyr Lys Arg His Glu
35 40 45
Thr Lys Gly Cys Leu Lys Glu Gly Ser Ala Asp Cys Lys
50 55 60

<210> 62

<211> 171

<212> PRT

<213> Ancylostoma ceylanicum

<220>

<221> misc_feature

<223>

<400> 62

Lys Pro Asn Asn Val Met Thr Asn Ala Cys Gly Leu Asn Glu Tyr Phe
1 5 10 15
Ala Glu Cys Gly Asn Met Lys Glu Cys Glu His Arg Cys Asn Glu Glu
20 25 30
Glu Asn Glu Glu Arg Asp Glu Glu Arg Ile Thr Ala Cys Leu Ile Arg
35 40 45
Val Cys Phe Arg Pro Gly Ala Cys Val Cys Lys Asp Gly Phe Tyr Arg
50 55 60
Asn Arg Thr Gly Ser Cys Val Glu Glu Asp Asp Cys Glu Tyr Glu Asn
65 70 75 80
Met Glu phe Ile Thr Phe Ala Pro Glu Val Pro Ile Cys Gly Ser Asn
85 90 95
Glu Arg Tyr Ser Asp Cys Gly Asn Asp Lys Gln Cys Glu Arg Lys Cys
100 105 110
Asn Glu Asp Asp Tyr Glu Lys Gly Asp Glu Ala Cys Arg Ser His Val
115 120 125
Cys Glu Arg Pro Gly Ala Cys Val Cys Glu Asp Gly Phe Tyr Arg Asn
130 135 140
Lys Lys Gly Ser Cys Val Glu Ser Asp Asp Cys Glu Tyr Asp Asn Met
145 150 155 160
Asp Phe Ile Thr Phe Ala Pro Glu Thr Ser Arg
165 170

<210> 63

<211> 162

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 63

Lys Ser Ala Lys Lys Cys Gly Leu Asn Glu Lys Leu Asp Cys Gly Asn
1 5 10 15
Leu Lys Ala Cys Glu Lys Lys Cys Ser Asp Leu Asp Asn Glu Glu Asp
20 25 30
Tyr Lys Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ser Arg
35 40 45
Arg Val Cys Val Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Gln
50 55 60
Cys Val Thr Arg Asp Asp Cys Glu Tyr Asp Asn Met Glu Ile Ile Thr
65 70 75 80
Phe Pro Pro Glu Asp Lys Cys Gly Pro Asp Glu Trp Phe Asp Trp Cys
85 90 95
Gly Thr Tyr Lys Glu Cys Glu Arg Lys Cys Asn Lys Glu Leu Ser Glu
100 105 110
Lys Asp Glu Glu Ala Cys Leu Ser Arg Ala Cys Thr Gly Arg Ala Cys
115 120 125
Val Cys Asn Asp Gly Leu Tyr Arg Asp Asp Phe Gly Asn Cys Val Glu
130 135 140
Lys Asp Glu Cys Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Glu Thr
145 150 155 160
Lys His

<210> 64

<211> 162

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 64

Lys Ser Ala Lys Lys Cys Gly Leu Asn Glu Lys Leu Asp Cys Gly Asn
1 5 10 15
Leu Lys Ala Cys Glu Lys Lys Cys Ser Asp Leu Asp Asn Glu Glu Asp
20 25 30
Tyr Gly Glu Glu Asp Glu Ser Lys Cys Arg Ser Arg Glu Cys Ile Gly
35 40 45
Arg Val Cys Val Cys Asp Glu Gly Phe Tyr Arg Asn Lys Lys Gly Glu
50 55 60
Cys Val Thr Arg Asp Asp Cys Glu Tyr Asp Asn Met Glu Ile Ile Thr
65 70 75 80
Phe Pro Pro Glu Asp Lys Cys Gly Pro Asp Glu Trp Phe Asp Trp Cys
85 90 95
Gly Thr Tyr Lys Gln Cys Glu Arg Lys Cys Ser Glu Glu Leu Ser Glu
100 105 110
Lys Asn Glu Glu Ala Cys Leu Ser Arg Ala Cys Thr Gly Arg Ala Cys
115 120 125
Val Cys Asn Asp Gly Leu Tyr Arg Asp Asp Phe Gly Asn Cys Val Glu
130 135 140
Lys Asp Glu Cys Asn Asp Met Glu Ile Ile Thr Phe Pro Pro Glu Thr

145 150 155 160
 Lys His

<210> 65
 <211> 161
 <212> PRT
 <213> Ancylostoma duodenale

<220>
 <221> misc_feature
 <223>

<400> 65

Lys	Ala	Ala	Lys	Lys	Cys	Gly	Leu	Asn	Glu	Arg	Leu	Asp	Cys	Gly	Asn
1				5					10					15	
Leu	Lys	Gln	Cys	Glu	Pro	Lys	Cys	Ser	Asp	Leu	Glu	Ser	Glu	Glu	Tyr
			20					25					30		
Glu	Glu	Glu	Asp	Glu	Ser	Lys	Cys	Arg	Ser	Arg	Glu	Cys	Ser	Arg	Arg
		35					40					45			
Val	Cys	Val	Cys	Asp	Glu	Gly	Phe	Tyr	Arg	Asn	Lys	Lys	Gly	Lys	Cys
	50					55				60					
Val	Ala	Lys	Asp	Val	Cys	Glu	Asp	Asp	Asn	Met	Glu	Ile	Ile	Thr	Phe
65					70					75					80
Pro	Pro	Glu	Asp	Glu	Cys	Gly	Pro	Asp	Glu	Trp	Phe	Asp	Tyr	Cys	Gly
			85					90						95	
Asn	Tyr	Lys	Lys	Cys	Glu	Arg	Lys	Cys	Ser	Glu	Glu	Thr	Ser	Glu	Lys
	100						105						110		
Asn	Glu	Glu	Ala	Cys	Leu	Ser	Arg	Ala	Cys	Thr	Gly	Arg	Ala	Cys	Val
	115					120					125				
Cys	Lys	Asp	Gly	Leu	Tyr	Arg	Asp	Asp	Phe	Gly	Asn	Cys	Val	Pro	His
	130					135					140				
Asp	Glu	Cys	Asn	Asp	Met	Glu	Ile	Ile	Thr	Phe	Pro	Pro	Glu	Thr	Lys
145					150					155					160
His															

<210> 66
 <211> 9
 <212> PRT
 <213>

<220>
 <221> CDS
 <222> (2)..(9)

<220>
 <221> "Xaa" is an amino 2 to 9 acid
 <223>

<400> 66

Cys	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
1					5				

<210> 67
<211> 9
<212> PPT
<213>

<220>
<221> CDS
<222> (2)..(9)

<220>
<221> "Xaa" is an amino 2 to 9 acid
<223>

<400> 67

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 68
<211> 7
<212> PPT
<213>

<220>
<221> CDS
<222> (1)..(2)

<220>
<221> "Xaa" at locations 1 and 2 is an amino acid, provided that at least one of Xaa at location 1 and 2 is Glu or Asp, Xaa in locations 3 to 8 is an amino acid
<223>

<400> 68

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 69
<211> 5
<212> PPT
<213>

<220>
<221> misc_feature
<223>

<400> 69

Gly Phe Tyr Arg Asp
1

<210> 70
<211> 5
<212> PPT
<213>

<220>
<221> misc_feature
<223>

<400> 70

Gly Phe Tyr Arg Asn
1 5

<210> 71
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 71

Gly Tyr Tyr Arg Asp
1 5

<210> 72
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 72

Gly Try Tyr Arg Asn
1 5

<210> 73
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 73

Gly Leu Tyr Arg Asp
1 5

<210> 74
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 74

Glu Ile Ile His Val
1 5

<210> 75
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 75

Asp Ile Ile Met Val
1 5

<210> 76
<211> 6
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 76

Phe Ile Thr Phe Ala Pro
1 5

<210> 77
<211> 5
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 77

Met Glu Ile Ile Thr
1 5

<210> 78
<211> 5
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 and 2 is an amino acid, provided that at
least one Xaa is Glu or Asp
<223>

<400> 78

Xaa Xaa Gly Phe Tyr Arg Asp
1 5

<210> 79
<211> 7
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 and 2 is an amino acid, provided that at
least one Xaa is Glu or Asp
<223>

<400> 79

Xaa Xaa Gly Phe Tyr Arg Asn
1 5

<210> 80
<211> 7
<212> PPT
<213>

<220>
<221> "Xaa" in locations 1 and 2 is an amino acid, provided that at
least one Xaa is Glu or Asp
<223>

<400> 80

Xaa Xaa Gly Tyr Tyr Arg Asp
1 5

<210> 81
<211> 7
<212> PPT
<213>

<220>
<221> "Xaa" in locations 1 and 2 is an amino acid, provided that at
least one Xaa is Glu or Asp
<223>

<400> 81

Xaa Xaa Gly Tyr Tyr Arg Asn
1 5

<210> 82
<211> 7
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 and 2 is an amino acid, provided that at
least one Xaa is Glu or Asp
<223>

<400> 82

Xaa Xaa Gly Leu Tyr Arg Asp
1 5

<210> 83
<211> 9
<212> PRT
<213>

<220>
<221> "Xaa" in locations 2 to 9 is an amino acid
<223>

<400> 83

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 84
<211> 4
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 is an amino acid, preferably Leu; Xaa in
location 2 is an amino acid; Xaa in location 3 is an amino acid,
preferably Arg; Xaa in location 4 is an amino acid
<223>

<400> 84

Xaa Xaa Xaa Xaa

1

<210> 85
<211> 4
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 to 4 is an amino acid
<223>

<400> 85

Xaa Xaa Xaa Xaa
1

<210> 86
<211> 9
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 to 2 is an amino acid
<223>

<400> 86

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 87
<211> 9
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 to 2 is an amino acid
<223>

<400> 87

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 88
<211> 25
<212> DNA
<213>

<400> 88

TCAGACATGT ATAATCTCAT GTTGG

25

<210> 89
<211> 25
<212> DNA
<213>

<400> 89

AACCCATACC CCCACTCTOC TC

22

<210> 90
<211> 21
<212> PRT
<213>

<220>
<221> "Xaa" in locations 1 to 2 is an amino acid
<223>

<400> 90

AARCCNTGYG ARMGGAARTG Y 21

<210> 91
<211> 23
<212> PRT
<213> Ancylostoma caninum

<220>
<221> "W" stands for A or T; "R" stands for A or G; "N" stands for any base; and "Y" stands for C or T.
<223>

<400> 91

TWRWANCENT CYTTRCANAC RCA

23

<210> 92
<211> 13
<212> PRT
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 92

Lys Ala Tyr Pro Glu Cys Gly Glu Asn Glu Trp Leu Aop
1 5 10

<210> 93
<211> 11
<212> PRT
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 93

Lys Ala Tyr Pro Glu Cys Gly Glu Asn Glu Trp
1 5 10

<210> 94
<211> 28
<212> DNA
<213> Ancylostoma caninum

<220>
<221> "R" stands for A or G; "N" stands for inosine; "Y" stands for C
or T
<223>

<400> 94

AARGCNTAYC CNGARTGYGG NGARAAYGAR TGG

33

<210> 95
<211> 28
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 95

AATTCGCGGC CGCTTTTTTT TTTTTTTT

28

<210> 96
<211> 24
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 96

CCTGGCGACG ACTCCTGGAG CCCC

24

<210> 97
<211> 20
<212> PRT
<213> Ancylostoma caninum

<220>

<221> misc_feature
<223> N-terminal caninum

<400> 97

Lys Ala Tyr Pro Glu Cys Gly Glu Asn Glu Tip Leu Asp Asp Cys Gly Thr
1 5 10 15
Gb Lys Pro
20

<210> 98
<211> 10
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 98

CGGAATTCCG

10

<210> 99
<211> 18
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 99

TGGCCTAGCG TCAGGAGT

18

<210> 100
<211> 18
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 100

CCTGACGCTA GGCCATGG

18

<210> 101
<211> 24
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature

<223>
 <400> 101
 AGCGGATAAC AATTTACAC AGGA 24
 <210> 102
 <211> 66
 <212> DNA
 <213> Ancylostoma caninum
 <220>
 <221> misc_feature
 <223>
 <400> 102
 ATGTTCTCTC CAATTTTGTC CTTGGAAATT ATTTTAGCTT TGGCTACTTT GCAATCTGTC 60
 TTCGCT 66
 <210> 103
 <211> 57
 <212> DNA
 <213> Ancylostoma caninum
 <220>
 <221> misc_feature
 <223>
 <400> 103
 CAGCCAGGTA TCTCCACTAC CGTTGGTTCC GCTGCCGAGG GTTCTTTGGA CAAGAGG 57
 <210> 104
 <211> 51
 <212> DNA
 <213> Ancylostoma caninum
 <220>
 <221> misc_feature
 <223>
 <400> 104
 CCTATCCGCG GAATTCAGAT CTGAATGCGG CCGCTCGAGA CTAGTGGATC C 51
 <210> 105
 <211> 41
 <212> DNA
 <213> Ancylostoma caninum
 <220>
 <221> misc_feature
 <223>

<400> 105

GCTCGCTCTA GAAGCTTCAG ACATGTATAA TCTCATGTTG C

41

<210> 106

<211> 36

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223> N-terminal fragment

<400> 106

Lys Ala Tyr Pro Glu
1 5

<210> 107

<211> 36

<212> DNA

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 107

GACCACTCTA GACAATGAAG ATGCTTTACG CTATCC

36

<210> 108

<211> 23

<212> DNA

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 108

CTGGGAGACC TGATACTCTC AAG

23

<210> 109

<211> 9

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223> N-terminal fragment

<400> 109

Arg Thr Val Arg Lys Ala Tyr Pro Glu

1

5

<210> 110
<211> 5
<212> PRT
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223> N-terminal fragment

<400> 110

Arg Thr Val Arg Lys

1

5

<210> 111
<211> 33
<212> DNA
<213> Ancylostoma caninum

<220>
<221> misc_feature
<223>

<400> 111

ATCCGAAGCT TTGCTAACAT ACTGCGTAAT AAG

33

<210> 112
<211> 60
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 112

TATGGGATGG CCGACTTGGC CTCCGCCTGA GCCTCCACCT TTATCCCAAT CCAAATAAGA

60

<210> 113
<211> 60
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 113

ATGGGATGGC CGACTTGGCC CTCCGCCTGA GCCTCCACCT TTATCCCAAT CCAAATAAGA

60

<210> 114
<211> 60

<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 114

TATGGCATGC CCGACTTGGC CCATCCGCCT GAGCCTCCAC CTTTATCCCA ATCCAAATAA

60

<210> 115
<211> 45
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 115

AGGAGGGGAT CCGCGGCCGC GTGATATGGG ATGGCCCACT TGGCC

45

<210> 116
<211> 24
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 116

CGCCAGGGTT TTCCCAGTCA CGAC

24

<210> 117
<211> 28
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 117

GTTTCGAGTT CCGGGATATA TAAAGTCC

28

<210> 118
<211> 7
<212> PRT
<213>

<220>

<221> "Xaa" in location 5 is Arg, Pro or Lys
<223>

<400> 118

Lys Pro Cys Glu Xaa Lys Cys
1 5

<210> 119
<211> 8
<212> PRT
<213>

<220>
<221> "Xaa" in location 2 is Val, Ile or Gln; Xaa in location 4 is
Lys, Asp, Glu or Gln; Xaa in location 5 is Asp or Glu; Xaa in location
7 is Phe or Tyr
<223>

<400> 119

Cys Xaa Cys Xaa Xaa Gly Xaa Tyr
1 5

<210> 120
<211> 44
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 120

GACCAGTCTA GACCACCATG GCGGTGCTTT ATTCACTAGC AATA

44

<210> 121
<211> 40
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 121

GCTCGTCTA GATTATCGTG AGGTTTCTGG TGCAAAAGTG

40

<210> 122
<211> 24
<212> DNA
<213>

<220>

<221> misc_feature
<223>

<400> 122

AAAGCAACGA TGCAGTGTGG TGAG

24

<210> 123
<211> 47
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 123

GCTCGCTCTA GAAGCTTCAG TTTCGAGTTC CGGGATATAT AAAGTCC

47

<210> 124
<211> 30
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 124

GAGACTTTTA AATCACTCTC CCATCAGAAG

30

<210> 125
<211> 33
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 125

TTCAGGACTA GTTCATOGTG CGRAAGTAAT AAA

33

<210> 126
<211> 28
<212> DNA
<213>

<220>
<221> misc_feature
<223>

<400> 126

GCGTTTAAAG CAACGATGCA GTGTGCTG

28

<210> 127

<211> 46

<212> DNA

<213>

<220>

<221> misc_feature

<223>

<400> 127

CGCTCTAGAA GCTTCATGGG TTTCGAGTTC COGGATATAT AAAGTC

46

<210> 128

<211> 91

<212> PRT

<213> Ancylostoma caninum

<220>

<221> misc_feature

<223>

<400> 128

Leu Val Ear Tyr Cys Ser Gly Lys Ala Thr Met Gln Cys Gly Glu Asn
1 5 10 15

Glu Lys Tyr Asp Ser Cys Gly Ser Lys Glu Cys Asp Lys Lys Cys Lys
20 25 30

Tyr Asp Gly Val Glu Glu Glu Asp Asp Glu Glu Pro Asn Val Pro Cys
35 40 45

Leu Val Arg Val Cys His Gln Asp Cys Val Cys Glu Glu Gly Phe Tyr
50 55 60

Arg Asn Lys Asp Asp Lys Cys Val Ser Ala Glu Asp Cys Glu Leu Asp
65 70 75 80

Asn Met Asp Phe Ile Tyr Pro Gly Thr Arg Asn
85 90

<210> 129

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 8 is an amino acid

<223> Internal fragment

<400> 129

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 130
<211> 7
<212> PRT
<213>

<220>
<221> misc_feature
<223>

<400> 130

Cys Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 131
<211> 6
<212> DNA
<213>

<220>
<221> Xaa in location 2 to 5 is an amino acid
<223> Internal fragment

<400> 131

Cys Xaa Xaa Xaa Xaa Cys
1 5

<210> 132
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 132

Cys Xaa Xaa Xaa Cys
1 5

<210> 133
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and 3 is an amino acid
<223> Internal fragment

<400> 133

Cys Xaa Xaa Cys

1

<210> 134

<211> 21

<212> PRT

<213>

<220>

<221> Internal fragment

<223> Xaa in locations 1 to 3 and 5 to 21 is an amino acid

<400> 134

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa

20

<210> 135

<211> 20

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 20 is an amino acid

<223> Internal fragment

<400> 135

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa

20

<210> 136

<211> 19

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 19 is an amino acid

<223> Internal fragment

<400> 136

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa

<210> 137

<211> 18

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 18 is an amino acid

<223> Internal fragment

<400> 137

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa

<210> 138

<211> 17

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 17 is an amino acid

<223> Internal fragment

<400> 138

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa

<210> 139

<211> 16

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 16 is an amino acid

<223> Internal fragment

<400> 139

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 140

<211> 15

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and 5 to 15 is an amino acid

<223> Internal fragment

<400> 140

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 141
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and 5 to 14 is an amino acid
<223> Internal fragment

<400> 141

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 142
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and 5 to 13 is an amino acid
<223> Internal fragment

<400> 142

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 143
<211> 12
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and 5 to 12 is an amino acid
<223> Internal fragment

<400> 143

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 144
<211> 11
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and 5 to 11 is an amino acid
<223> Internal fragment

<400> 144

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 145
<211> 10
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and 5 to 10 is an amino acid
<223> Internal fragment

<400> 145

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 146
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 146

Cys Xaa Xaa Xaa Xaa
1 5

<210> 147
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 147

Cys Xaa Xaa Xaa
1

<210> 148
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 148

Cys Xaa Xaa Xaa Xaa Xaa
1 5

<210> 149
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 149

Cys Xaa Xaa Xaa Xaa
1 5

<210> 150
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 150

Cys Xaa Xaa Xaa
1

<210> 151
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and 4 is an amino acid
<223> Internal fragment

<400> 151

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 152
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and locations 4 to 14 is an amino acid
<223> Internal fragment

<400> 152

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 153
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and locations 4 to 13 is an amino acid
<223> Internal fragment

<400> 153

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 154
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and 7 is an amino acid
<223> Internal fragment

<400> 154

Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 155
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 155

Cys Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 156
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 8 is an amino acid
<223> Internal fragment

<400> 156

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 157
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 157

Cys Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 158
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 158

Cys Xaa Xaa Xaa Xaa Cys
1 5

<210> 159
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 159

Cys Xaa Xaa Xaa Cys
1 5

<210> 160
<211> 23
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 23 is an amino acid
<223> Internal fragment

<400> 160

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 161
<211> 22
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 22 is an amino acid
<223> Internal fragment

<400> 161

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 162
<211> 21
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 21 is an amino acid
<223> Internal fragment

<400> 162

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

<210> 163
<211> 20
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 20 is an amino acid
<223> Internal fragment

<400> 163

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa
20

<210> 164
<211> 19

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 19 is an amino acid

<223> Internal fragment

<400> 164

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa

<210> 165

<211> 18

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 18 is an amino acid

<223> Internal fragment

<400> 165

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa

<210> 166

<211> 17

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 17 is an amino acid

<223> Internal fragment

<400> 166

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa

<210> 167

<211> 16

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 16 is an amino acid

<223> Internal fragment

<400> 167

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 168

<211> 15

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 15 is an amino acid

<223> Internal fragment

<400> 168

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 169

<211> 14

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 14 is an amino acid

<223> Internal fragment

<400> 169

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 170

<211> 13

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 13 is an amino acid

<223> Internal fragment

<400> 170

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 171

<211> 12

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 12 is an amino acid

<223> Internal fragment

<400> 171

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 172

<211> 11

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 11 is an amino acid

<223> Internal fragment

<400> 172

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 173

<211> 10

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 10 is an amino acid

<223> Internal fragment

<400> 173

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 174

<211> 20

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 5 is an amino acid

<223> Internal fragment

<400> 174

Cys Xaa Xaa Xaa Xaa
1 5

<210> 175

<211> 20

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 4 is an amino acid

<223> Internal fragment

<400> 175

Cys Xaa Xaa Xaa
1

<210> 176
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 176

Cys Xaa Xaa Xaa Xaa Xaa
1 5

<210> 177
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 177

Cys Xaa Xaa Xaa Xaa
1 5

<210> 178
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 178

Cys Xaa Xaa Xaa
1

<210> 180
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 2 and locations 4 to 14 is an amino acid
<223> Internal fragment

<400> 180

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 181
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 8 is an amino acid
<223> Internal fragment

<400> 181

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 182
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 7 is an amino acid
<223> Internal fragment

<400> 182

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 183
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 183

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 184
<211> 26
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 26 is an amino acid
<223> Internal fragment

<400> 184

Cys Xaa Xaa Xaa Xaa Xaa
1 5

<210> 185

<211> 25

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 25 is an amino acid

<223> Internal fragment

<400> 185

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25

<210> 186

<211> 24

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 24 is an amino acid

<223> Internal fragment

<400> 186

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25

<210> 187

<211> 23

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 23 is an amino acid

<223> Internal fragment

<400> 187

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 188

<211> 22
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 22 is an amino acid
<223> Internal fragment

<400> 188

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 189
<211> 21
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 21 is an amino acid
<223> Internal fragment

<400> 189

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 190
<211> 20
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 20 is an amino acid
<223> Internal fragment

<400> 190

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 191
<211> 19
<212> PRT
<213>

<220>

<221> Xaa in locations 2 to 19 is an amino acid

<223> Internal fragment

<400> 191

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa
20

<210> 192

<211> 18

<212> PPT

<213>

<220>

<221> Xaa in locations 2 to 18 is an amino acid

<223> Internal fragment

<400> 192

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa

<210> 193

<211> 17

<212> PPT

<213>

<220>

<221> Xaa in locations 2 to 17 is an amino acid

<223> Internal fragment

<400> 193

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa

<210> 194

<211> 16

<212> PPT

<213>

<220>

<221> Xaa in locations 2 to 16 is an amino acid

<223> Internal fragment

<400> 194

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa

<210> 195
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 15 is an amino acid
<223> Internal fragment

<400> 195

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 196
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 14 is an amino acid
<223> Internal fragment

<400> 196

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 197
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 13 is an amino acid
<223> Internal fragment

<400> 197

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 198
<211> 20
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 12 is an amino acid
<223> Internal fragment

<400> 198

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 199

<211> 11

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 11 is an amino acid

<223> Internal fragment

<400> 199

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 200

<211> 10

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 10 is an amino acid

<223> Internal fragment

<400> 200

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 201

<211> 9

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 9 is an amino acid

<223> Internal fragment

<400> 201

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 202

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 8 is an amino acid

<223> Internal fragment

<400> 202

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 203
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 7 is an amino acid
<223> Internal fragment

<400> 203

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 204
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 7 is an amino acid
<223> Internal fragment

<400> 204

Cys Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 204
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 204

Cys Xaa Xaa Xaa Xaa Xaa
1 5

<210> 205
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 8 is an amino acid
<223> Internal fragment

<400> 205

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 206

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 6 is an amino acid

<223> Internal fragment

<400> 206

Cys Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 207

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 5 is an amino acid

<223> Internal fragment

<400> 207

Cys Xaa Xaa Xaa Xaa Cys
1 5

<210> 207

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 5 is an amino acid

<223> Internal fragment

<400> 207

Cys Xaa Xaa Xaa Cys
1 5

<210> 209

<211> 23

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 23 is an amino acid

<223> Internal fragment

<400> 209

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 210

<211> 22

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 22 is an amino acid

<223> Internal fragment

<400> 210

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 211

<211> 21

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 21 is an amino acid

<223> Internal fragment

<400> 211

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa
20

<210> 212

<211> 20

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 20 is an amino acid

<223> Internal fragment

<400> 212

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa

20

<210> 213
<211> 19
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 19 is an amino acid
<223> Internal fragment

<400> 213

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa

<210> 214
<211> 18
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 18 is an amino acid
<223> Internal fragment

<400> 214

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa

<210> 215
<211> 17
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 17 is an amino acid
<223> Internal fragment

<400> 215

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa

<210> 216
<211> 16
<212> PRT
<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 16 is an amino acid
<223> Internal fragment

<400> 216

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 217
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 15 is an amino acid
<223> Internal fragment

<400> 217

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 218
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 14 is an amino acid
<223> Internal fragment

<400> 218

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 219
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 13 is an amino acid
<223> Internal fragment

<400> 219

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 220
<211> 12
<212> PRT
<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 12 is an amino acid
<223> Internal fragment

<400> 220

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 221
<211> 11
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 11 is an amino acid
<223> Internal fragment

<400> 221

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 222
<211> 10
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 10 is an amino acid
<223> Internal fragment

<400> 222

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 223
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 223

Cys Xaa Xaa Xaa Xaa
1 5

<210> 224
<211> 4
<212> PRT
<213>

<220>

<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 224

Cys Xaa Xaa Xaa
1

<210> 225
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 225

Cys Xaa Xaa Xaa Xaa Xaa
1 5

<210> 226
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 226

Cys Xaa Xaa Xaa Xaa
1 5

<210> 227
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 227

Cys Xaa Xaa Xaa
1

<210> 228
<211> 15
<212> PRT
<213>

<220>

<221> Xaa in location 2 and locations 4 to 15 is an amino acid
<223> Internal fragment

<400> 228

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

<210> 229
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in location 2 and locations 4 to 14 is an amino acid
<223> Internal fragment

<400> 229

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

<210> 230
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 8 is an amino acid
<223> Internal fragment

<400> 230

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 231
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 7 is an amino acid
<223> Internal fragment

<400> 231

Cys Xaa Xaa Xaa Xaa Xaa Xaa
1 5

<210> 232
<211> 6
<212> PRT
<213>

<220>

<221> Xaa in location 2 to 6 is an amino acid

<223> Internal fragment

<400> 232

Cys Xaa Xaa Xaa Xaa Xaa

1

5

<210> 233

<211> 26

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 26 is an amino acid

<223> Internal fragment

<400> 233

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa Xee Xaa Xaa Xaa Xaa

20

25

<210> 234

<211> 25

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 25 is an amino acid

<223> Internal fragment

<400> 234

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xee Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

20

25

<210> 235

<211> 24

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 24 is an amino acid

<223> Internal fragment

<400> 235

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 236

<211> 23

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 23 is an amino acid

<223> Internal fragment

<400> 236

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 237

<211> 22

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 22 is an amino acid

<223> Internal fragment

<400> 237

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 238

<211> 21

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 21 is an amino acid

<223> Internal fragment

<400> 238

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10

Xaa Xaa Xaa Xaa Xaa
20

<210> 239

<211> 20

<212> PRT
<213>

<220>
<221> Xaa in location 2 to 20 is an amino acid
<223> Internal fragment

<400> 239

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa
20

<210> 240
<211> 19
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 19 is an amino acid
<223> Internal fragment

<400> 240

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa

<210> 241
<211> 18
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 18 is an amino acid
<223> Internal fragment

<400> 241

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa

<210> 242
<211> 17
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 17 is an amino acid
<223> Internal fragment

<400> 242

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1
Xaa

5 10

<210> 243
<211> 16
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 16 is an amino acid
<223> Internal fragment

<400> 243

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 244
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 15 is an amino acid
<223> Internal fragment

<400> 244

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 245
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 14 is an amino acid
<223> Internal fragment

<400> 245

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 246
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 13 is an amino acid
<223> Internal fragment

<400> 246

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 247

<211> 12

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 12 is an amino acid

<223> Internal fragment

<400> 247

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 248

<211> 11

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 11 is an amino acid

<223> Internal fragment

<400> 248

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 248

<211> 11

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 11 is an amino acid

<223> Internal fragment

<400> 248

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 249

<211> 10

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 10 is an amino acid

<223> Internal fragment

<400> 249

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 250

<211> 9

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 9 is an amino acid

<223> Internal fragment

<400> 250

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 251

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 8 is an amino acid

<223> Internal fragment

<400> 251

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 252

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 7 is an amino acid

<223> Internal fragment

<400> 252

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 253

<211> 16

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 16 is an amino acid

<223> Internal fragment

<400> 253

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 254

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 8 is an amino acid

<223> Internal fragment

<400> 254

Cys Xaa Xaa Xaa Xaa Xaa Cys
1 5

<210> 255

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 6 is an amino acid

<223> Internal fragment

<400> 255

Cys Xaa Xaa Xaa Xaa Cys
1 5

Cys Xaa Xaa Xaa Cys
1

5

<210> 257

<211> 5

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 4 is an amino acid

<223> Internal fragment

<400> 257

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 258

<211> 23
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 2 and locations 5 to 23 is an amino acid
<223> Internal fragment

<400> 258

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 259
<211> 22
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 22 is an amino acid
<223> Internal fragment

<400> 259

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa
20

<210> 260
<211> 21
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 21 is an amino acid
<223> Internal fragment

<400> 260

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa
20

<210> 261
<211> 20
<212> PRT
<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 20 is an amino acid
<223> Internal fragment

<400> 261

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

Xaa Xaa Xaa

<210> 262

<211> 219

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 19 is an amino acid

<223> Internal fragment

<400> 262

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

Xaa Xaa

<210> 263

<211> 18

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 18 is an amino acid

<223> Internal fragment

<400> 263

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

Xaa

<210> 264

<211> 17

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 17 is an amino acid

<223> Internal fragment

<400> 264

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 265
<211> 16
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 16 is an amino acid
<223> Internal fragment

<400> 265

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 266
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 15 is an amino acid
<223> Internal fragment

<400> 266

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 267
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 14 is an amino acid
<223> Internal fragment

<400> 267

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 269
<211> 12
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 12 is an amino acid
<223> Internal fragment

<400> 269

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 270
<211> 11
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 11 is an amino acid
<223> Internal fragment

<400> 270

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 271
<211> 10
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 10 is an amino acid
<223> Internal fragment

<400> 271

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 272
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 272

Cys Xaa Xaa Xaa Xaa

1

5

<210> 273
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 273

Cys Xaa Xaa Xaa

1

<210> 274
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 274

Cys Xaa Xaa Xaa Xaa Xaa

1

5

<210> 275
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 275

Cys Xaa Xaa Xaa Xaa

1

5

<210> 276
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 276

Cys Xaa Xaa Xaa

1

<210> 277
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in location 2 and locations 4 to 15 is an amino acid
<223> Internal fragment

<400> 277

Cys Xaa Cys Xaa Xaa Xaa Xaa Esa Xaa Xaa Xaa Xaas Xaa Xaa Xaa

1

5

10

<210> 278
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in location 2 and locations 4 to 14 is an amino acid
<223> Internal fragment

<400> 278

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 279
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in location 2 and locations 4 to 13 is an amino acid
<223> Internal fragment

<400> 279

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 280
<211> 8
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 8 is an amino acid
<223> Internal fragment

<400> 280

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

<210> 281
<211> 7
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 7 is an amino acid
<223> Internal fragment

<400> 281

Cys Xaa Xaa Xaa Xaa Xaa Xaa

1

5

<210> 282

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 6 is an amino acid

<223> Internal fragment

<400> 282

Cys Xaa Xaa Xaa Xaa Xaa

1

5

<210> 283
<211> 26
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 26 is an amino acid
<223> Internal fragment

<400> 283

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

25

<210> 284
<211> 25
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 25 is an amino acid
<223> Internal fragment

<400> 284

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

25

<210> 285
<211> 24
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 24 is an amino acid
<223> Internal fragment

<400> 285

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 286
<211> 23
<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 23 is an amino acid

<223> Internal fragment

<400> 286

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 287

<211> 22

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 22 is an amino acid

<223> Internal fragment

<400> 287

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

10

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 288

<211> 21

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 21 is an amino acid

<223> Internal fragment

<400> 288

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

10

Xaa Xaa Xaa Xaa Xaa
20

<210> 289

<211> 20

<212> PRT

<213>

<220>
<221> Xaa in locations 2 to 20 is an amino acid
<223> Internal fragment

<400> 289

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa
20

<210> 290
<211> 19
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 19 is an amino acid
<223> Internal fragment

<400> 290

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa

<210> 291
<211> 18
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 18 is an amino acid
<223> Internal fragment

<400> 291

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa

<210> 292
<211> 17
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 17 is an amino acid
<223> Internal fragment

<400> 292

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa

<210> 293
<211> 16
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 16 is an amino acid
<223> Internal fragment

<400> 293

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 294
<211> 15
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 15 is an amino acid
<223> Internal fragment

<400> 294

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 295
<211> 14
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 14 is an amino acid
<223> Internal fragment

<400> 295

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 296
<211> 13
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 13 is an amino acid
<223> Internal fragment

<400> 296		
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
1	5	10
<210> 297		
<211> 12		
<212> PRT		
<213>		
<220>		
<221> Xaa in locations 2 to 12 is an amino acid		
<223> Internal fragment		
<400> 297		
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
1	5	10
<210> 298		
<211> 111		
<212> PRT		
<213>		
<220>		
<221> Xaa in locations 2 to 11 is an amino acid		
<223> Internal fragment		
<400> 298		
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
1	5	10
<210> 299		
<211> 10		
<212> PRT		
<213>		
<220>		
<221> Xaa in locations 2 to 10 is an amino acid		
<223> Internal fragment		
<400> 299		
Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa		
1	5	10
<210> 300		
<211> 9		
<212> PRT		
<213>		
<220>		
<221> Xaa in locations 2 to 9 is an amino acid		
<223> Internal fragment		

<400> 300

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 301

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 8 is an amino acid

<223> Internal fragment

<400> 301

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 302

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 7 is an amino acid

<223> Internal fragment

<400> 302

Cys Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 303

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 6 is an amino acid

<223> Internal fragment

<400> 303

Cys Xaa Xaa Xaa Xaa Xaa
1

5

<210> 304

<211> 5

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 5 is an amino acid

<223> Internal fragment

<400> 304

Cys Xaa Xaa Xaa Xaa
1

5

<210> 305

<211> 4

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 4 is an amino acid

<223> Internal fragment

<400> 305

Cys Xaa Xaa Xaa
1

<210> 306

<211> 3

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 3 is an amino acid

<223> Internal fragment

<400> 306

Cys Xaa Xaa
1

<210> 307

<211> 2

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 2 is an amino acid

<223> Internal fragment

<400> 307

Cys Xaa
1

<210> 308

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 8 is an amino acid

<223> Internal fragment

<400> 308

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 309

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 6 is an amino acid

<223> Internal fragment

<400> 309

Cys Xaa Xaa Xaa Xaa Xaa Cys
1

5

<210> 310

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 5 is an amino acid

<223> Internal fragment

<400> 310

Cys Xaa Xaa Xaa Xaa Cys
1

5

<210> 311

<211> 5

<212> PRT

<213>

<220>

<221> Xaa in locations 2 to 4 is an amino acid

<223> Internal fragment

<400> 311

Cys Xaa Xaa Xaa Cys
1

5

<210> 312

<211> 23

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 23 is an amino acid

<223> Internal fragment

<400> 312

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 313

<211> 22

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 22 is an amino acid

<223> Internal fragment

<400> 313

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 314

<211> 21

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 21 is an amino acid

<223> Internal fragment

<400> 314

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa
20

<210> 315

<211> 20

<212> PRT

<213>

<220>

<221> Xaa in locations 1 to 3 and locations 5 to 20 is an amino acid

<223> Internal fragment

<400> 315

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Eas Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa
20

<210> 316
<211> 19
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 19 is an amino acid
<223> Internal fragment

<400> 316

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa

<210> 317
<211> 18
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 18 is an amino acid
<223> Internal fragment

<400> 317

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa

<210> 318
<211> 17
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 17 is an amino acid
<223> Internal fragment

<400> 318

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa

<210> 319
<211> 16
<212> PRT
<213>

```

    <220>
    <221> Xaa in locations 1 to 3 and locations 5 to 16 is an amino acid
    <223> Internal fragment

    <400> 319

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 320
    <211> 15
    <212> PRT
    <213>

    <220>
    <221> Xaa in locations 1 to 3 and locations 5 to 15 is an amino acid
    <223> Internal fragment

    <400> 320

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 321
    <211> 14
    <212> PRT
    <213>

    <220>
    <221> Xaa in locations 1 to 3 and locations 5 to 14 is an amino acid
    <223> Internal fragment

    <400> 321

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 322
    <211> 13
    <212> PRT
    <213>

    <220>
    <221> Xaa in locations 1 to 3 and locations 5 to 13 is an amino acid
    <223> Internal fragment

    <400> 322

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 323
    <211> 13
    <212> PRT
    <213>

```

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 12 is an amino acid
<223> Internal fragment

<400> 323

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 324
<211> 11
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 11 is an amino acid
<223> Internal fragment

<400> 324

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 325
<211> 10
<212> PRT
<213>

<220>
<221> Xaa in locations 1 to 3 and locations 5 to 10 is an amino acid
<223> Internal fragment

<400> 325

Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa

1

5

10

<210> 326
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 326

Cys Xaa Xaa Xaa Xaa

1

5

<210> 327
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 327

Cys Xaa Xaa Xaa
1

<210> 328
<211> 6
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 6 is an amino acid
<223> Internal fragment

<400> 328

Cys Xaa Xaa Xaa Xaa Xaa
1

5

<210> 329
<211> 5
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 5 is an amino acid
<223> Internal fragment

<400> 329

Cys Xaa Xaa Xaa Xaa
1

5

<210> 330
<211> 4
<212> PRT
<213>

<220>
<221> Xaa in locations 2 to 4 is an amino acid
<223> Internal fragment

<400> 330

Cys Xaa Xaa Xaa
1

<210> 331
<211> 15
<212> PRT
<213>

```

    <220>
    <221> Xaa in location 2 and locations 4 to 15 is an amino acid
    <223> Internal fragment

    <400> 331

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 332
    <211> 14
    <212> PRT
    <213>

    <220>
    <221> Xaa in location 2 and locations 4 to 14 is an amino acid
    <223> Internal fragment

    <400> 332

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5      10

    <210> 333
    <211> 8
    <212> PRT
    <213>

    <220>
    <221> Xaa in location 2 to 8 is an amino acid
    <223> Internal fragment

    <400> 333

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5

    <210> 334
    <211> 7
    <212> PRT
    <213>

    <220>
    <221> Xaa in location 2 to 7 is an amino acid
    <223> Internal fragment

    <400> 334

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1                                                                 5

    <210> 335
    <211> 6
    <212> PRT
    <213>

```

```

<220>
<221> Xaa in location 2 to 6 is an amino acid
<223> Internal fragment

<400> 335

Cys Xaa Xaa Xaa Xaa Xaa
1
5

<210> 336
<211> 26
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 26 is an amino acid
<223> Internal fragment

<400> 336

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1
5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20
25

<210> 337
<211> 25
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 25 is an amino acid
<223> Internal fragment

<400> 337

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1
5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20
25

<210> 338
<211> 24
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 24 is an amino acid
<223> Internal fragment

<400> 338

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1
5 10

```

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 339
<211> 23
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 23 is an amino acid
<223> Internal fragment

<400> 339

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 340
<211> 22
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 22 is an amino acid
<223> Internal fragment

<400> 340

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa Xaa
20

<210> 341
<211> 21
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 21 is an amino acid
<223> Internal fragment

<400> 341

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa Xaa
20

<210> 342
<211> 20

<212> PRT
<213>

<220>
<221> Xaa in location 2 to 20 is an amino acid
<223> Internal fragment

<400> 342

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa Xaa
20

<210> 343
<211> 19
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 19 is an amino acid
<223> Internal fragment

<400> 343

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa Xaa

<210> 344
<211> 18
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 18 is an amino acid
<223> Internal fragment

<400> 344

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa Xaa

<210> 345
<211> 17
<212> PRT
<213>

<220>
<221> Xaa in location 2 to 17 is an amino acid
<223> Internal fragment

<400> 345

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

Xaa

<210> 346

<211> 16

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 16 is an amino acid

<223> Internal fragment

<400> 346

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 347

<211> 15

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 15 is an amino acid

<223> Internal fragment

<400> 347

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 348

<211> 14

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 14 is an amino acid

<223> Internal fragment

<400> 348

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 349

<211> 13

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 13 is an amino acid

<223> Internal fragment

<400> 349

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 350

<211> 12

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 12 is an amino acid

<223> Internal fragment

<400> 350

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 351

<211> 11

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 11 is an amino acid

<223> Internal fragment

<400> 351

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 352

<211> 10

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 10 is an amino acid

<223> Internal fragment

<400> 352

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5 10

<210> 353

<211> 9

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 9 is an amino acid

<223> Internal fragment

<400> 353

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 354

<211> 8

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 8 is an amino acid

<223> Internal fragment

<400> 354

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 355

<211> 7

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 7 is an amino acid

<223> Internal fragment

<400> 355

Cys Xaa Xaa Xaa Xaa Xaa Xaa
1

5

<210> 356

<211> 6

<212> PRT

<213>

<220>

<221> Xaa in location 2 to 6 is an amino acid

<223> Internal fragment

<400> 356

Cys Xaa Xaa Xaa Xaa Xaa
1

5